[illegible] Library

Vol. 13 DECEMBER, 1934 No. 4

DEC 26 1934

21

The Personnel Journal

Devoted to Industrial Psychology, the Science of Work, the Human Factor in Management and the Satisfactory Adjustment of Individuals to Their Occupations

Measuring the Industrial Safety Program —*Leverett D. Bristol*

Suggestion Systems in 1932 and 1933 —*Paul L. Stanchfield and Z. C. Dickinson*

Interests and Sales Ability —*Edward K. Strong, Jr.*

Work Interests of Junior Executives —*Clarence Fraser*

The A-S Reaction Test. A Study of Beckman's Revision —*Samuel N. Stevens and Eldon F. Wonderlic*

A New Scale for Gauging Occupational Rank —*R. O. Beckman*

News Notes Personnel Books Current Periodicals

Edited by WALTER VAN DYKE BINGHAM, 29 W. 39th St., New York

Published Bimonthly for the Personnel Research Federation by The Williams & Wilkins Company, Baltimore, U. S. A.

Made in the United States of America

The Personnel Journal

THE PERSONNEL JOURNAL publishes original investigations in the applied sciences that contribute to knowledge and effective direction of people at work.

THE PERSONNEL JOURNAL is published for the Personnel Research Federation whose object is "the furtherance of research activities pertaining to personnel in industry, commerce, education, government, and other fields, wherever such researches are conducted in the spirit and with the methods of science."

THE PERSONNEL JOURNAL renders a service not only in centralizing information about personnel research, but also furnishes a continuous accumulation of authoritative material in this field. Significant contributions by specialists in the biological and medical sciences, psychologists, psychiatrists, engineers, and economists, have been published.

Successful personnel administration brings about effective and satisfying adjustments between men and their occupations. It demands judgment based on knowledge of the conditions under which people work productively and happily. It is increasingly important for the administrator to know the methods and results of scientific studies. To make them currently available is one of the functions of THE PERSONNEL JOURNAL.

Articles appearing in THE PERSONNEL JOURNAL are indexed regularly in the cumulative Education Index.

SUGGESTIONS TO CONTRIBUTORS

An author's abstract, 50 to 250 words in length, should accompany each manuscript submitted for publication. The abstract should state tersely the problem treated and the method of investigation, and then tell what was found that is new and significant. The Editor prepares a prefatory note, introducing the article or its author to the readers.

Authors are asked to follow scrupulously the standard practice of this JOURNAL in the matter of abbreviations, citations, footnotes, captions for tables and figures, and occasional short but illuminating topical headings. A folder on preparation of manuscript for the printer will be mailed on request. The style of writing should be crisp and concise, with elimination of every word and paragraph that can be deleted without loss. Such a style is not incompatible with scientific accuracy nor with real literary distinction.

Contributors of articles receive 25 reprints without covers, free of cost. A table showing cost of additional reprints, with order slip, is sent with proof.

Contributors desiring to accompany their articles with numerous illustrations involving the making of half tone plates, electros and color plates should consult the publisher with regard to costs.

EDITORIAL BOARD

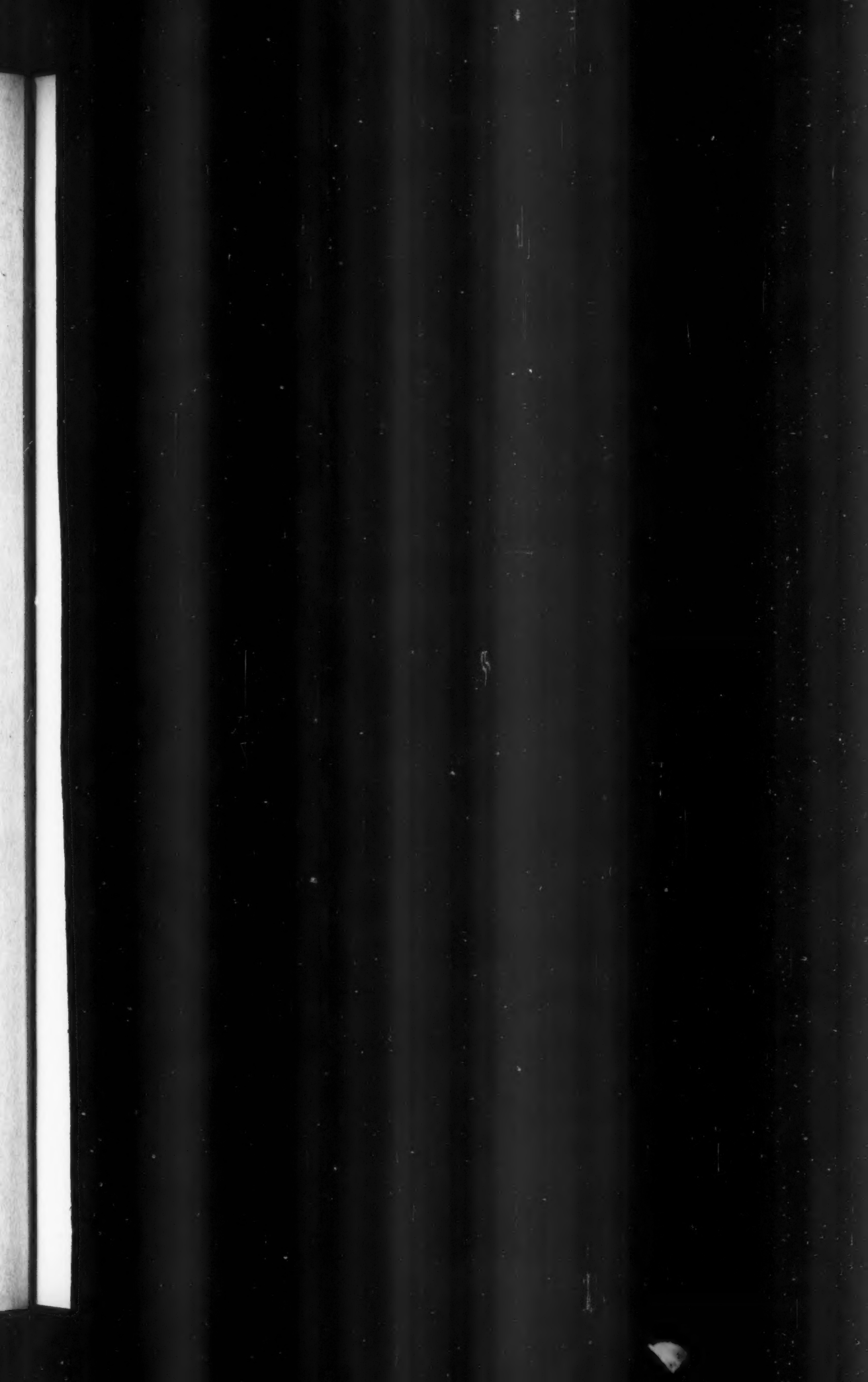
DOUGLAS FRYER, New York University
HOWARD W. HAGGARD, Yale University
WESLEY C. MITCHELL, National Bureau of Economic Research
EDWARD K. STRONG, JR., Stanford University
LOUIS L. THURSTONE, University of Chicago
MARY VAN KLEECK, Russell Sage Foundation
MORRIS S. VITELES, University of Pennsylvania
FRANKWOOD E. WILLIAMS, New York
JOSEPH H. WILLITS, University of Pennsylvania
MATTHEW WOLL, American Federation of Labor

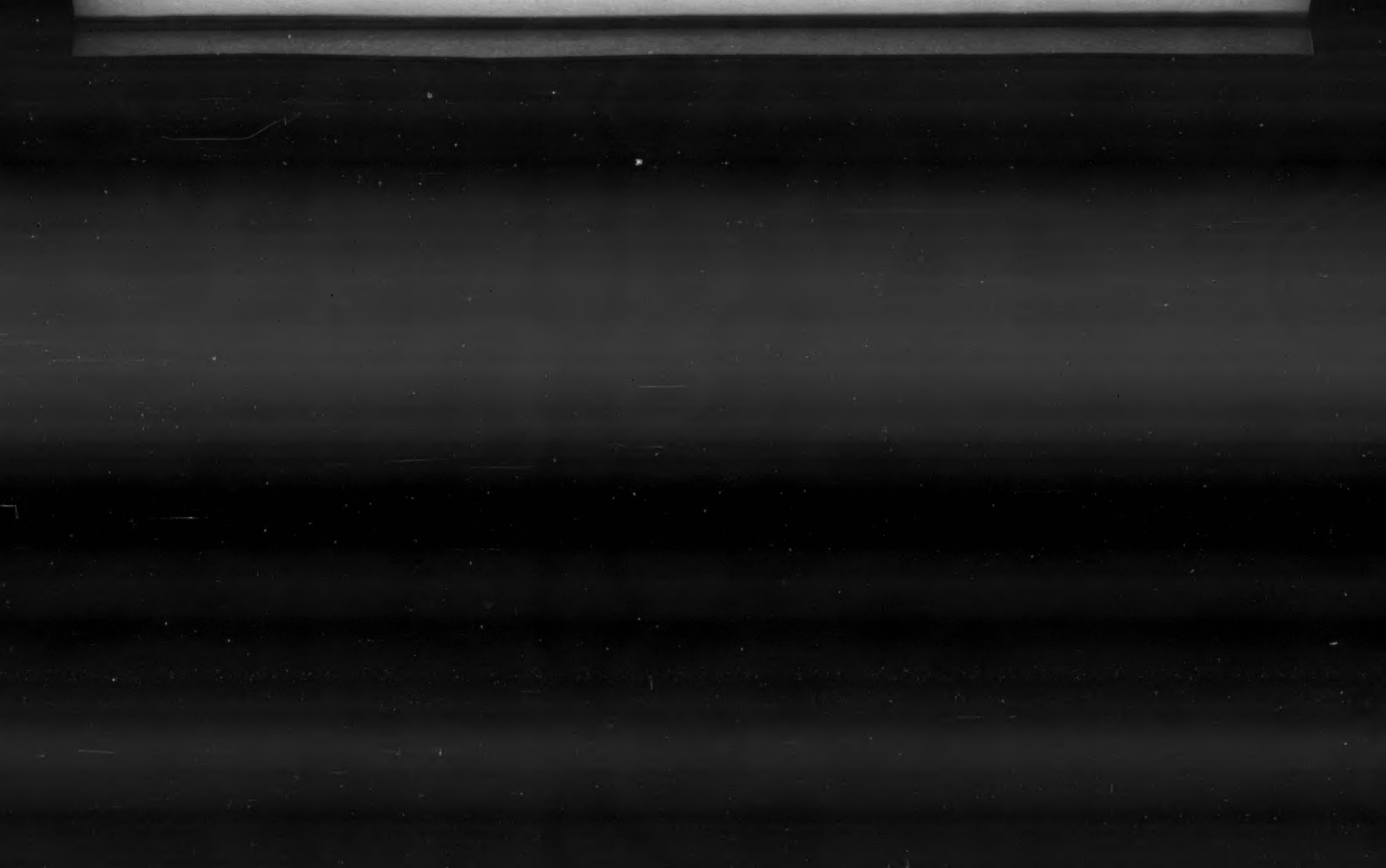
WALTER V. BINGHAM, *Editor*

O. MILTON HALL, *Managing Editor*, Personnel Research Federation, New York
CLARENCE S. YOAKUM, *Associate Editor*, University of Michigan

Entered as second-class matter May 20, 1922 at the post office at Baltimore, Maryland, under the act of March 3, 1879.

Copyright 1934, by The Williams & Wilkins Company





Measuring the Industrial Safety Program

By Leverett D. Bristol, M.D., *Health Director, American Telephone and Telegraph Company, New York*

If an Industrial Safety Program is not working right, the record of accidents soon tells the story. But it does not tell 'why'. The device which Dr. Bristol describes should aid in locating strong and weak points in a safety program, as well as in general appraisal.

THE best yardstick with which to measure the success or failure of an accident prevention program is the statistical record of decrease or increase in the number of accidents. Concrete end results are the things which count. Accident prevention and safety work have been the most enthusiastically supported of all personnel activities in industry largely because their results can be measured and appraised. In spite of the ease of determining the end results of accident prevention work, may it not also be desirable to have some yardstick or rating schedule to measure company effort, total performance, completeness and progress of programs in the industrial safety field? To this end there is suggested herein a device for measuring the industrial safety program itself.

THE APPRAISAL METHOD

The appraisal or scoring method in general has been adapted to various fields of human activity. One of the first interesting applications of this method was that developed by the National Board of Fire Underwriters in the form of a "Standard Schedule for Grading Cities and Towns of the United States with Reference to Their Fire Defenses and Physical Conditions," which was adopted in 1916. This schedule logically attempts to rate and grade communities not on the negative side of the problem—the number and extent of fires—but from the positive, preventive standpoint of fire defense and physical conditions. This appraisal method also has been applied to state, city and county health work, under the leadership of the Committee on Administrative Practice of the American Public Health Association.

In 1932 the writer[1] developed an original Appraisal Form or Rating Schedule for Industrial Health Service in general, and, in addition, outlined a form to cover the possible scoring of the entire personnel and industrial relations program. These forms were further elaborated by the writer[2]

[1] Bristol, L. D. An Appraisal Form for Industrial Health Service, *Am. Jour. Pub. Health*, 1932, 22: 1263.

[2] Bristol, L. D. Appraisal of Industrial Health Activities, *Ind. Med.*, 1933, 2: 85.

in 1933. The object of the present paper is to emphasize the possibility also of extending the appraisal idea in more detail to the measurement of the accident prevention and safety program. The sections, subdivisions and assigned values in this plan are not considered final, and are subject to revision on the basis of group judgment. Moreover, no attempt is made to list all the possible activities and values under each subdivision. These are left for future development.

According to the writer's Appraisal Form,[3] *Personnel and Industrial Relations Service* in general may be divided into five chief sections as follows: (1) Employment Activities, (2) Educational Activities, (3) Economic Activities, (4) Health and Safety Activities, and (5) Coöperative Activities. In this plan, each section has been assigned a rated value of 1,000, making up a maximum total score of 5,000. The part of the total personnel and industrial relations program which should be given over to an *industrial health service* has been divided further into the following activities, with their respective assigned values:

A. Vital Statistics Activities	75
B. Communicable Disease Control	150
C. Tuberculosis Control	100
D. Occupational Disease and Accident Control	200
E. Personal and Environmental Hygiene	400
F. General Health Publicity	75

Thus the maximum total score for a complete industrial health and safety service is 1,000. For further details of these original schedules, reference should be made to the publications previously mentioned.

[3] Bristol, L. D. *Industrial Health Service.* Philadelphia: Lea and Febiger, 1933.

APPRAISAL FORM FOR OCCUPATIONAL DISEASE AND ACCIDENT PREVENTION SERVICE

Based on the assumption that at least one-fifth (or a total assigned score of 200 out of 1,000) of the health and safety program of an industry should be given over to the prevention and control of industrial accidents and occupational diseases, table 1 gives a brief summary of the sections, subdivisions and assigned values of a proposed Appraisal Form for an Industrial Safety Service, particularly in larger industries. Reference is not made in this table to such important activities and facilities as pre-employment physical examinations, selection of employees, illumination, ventilation, sanitation and rehabilitation because these, and others that might be listed, are factors related to the entire health or personnel program and are included in the writer's more general appraisal forms referred to above.

Those wishing to make use of such a form for scoring purposes could have it made up with the necessary blank columns for filling in the recorded values, or scores, opposite the maximum assigned values. In the future evolution of such an appraisal form the values and scoring should become more and more objective, based upon accurate records. Until then, carefully controlled opinion and judgment must be the basis for comparative scoring.

The major advantages of this

TABLE 1

Sections, subdivisions and assigned values of proposed appraisal form for an industrial safety service in larger industries

SECTIONS AND SUBDIVISIONS	ASSIGNED VALUES	
A. Records, Case Investigations and Reports		30
1. Complete investigation and report of each case of occupational disease, poisoning or accident	10	
2. Records, giving name, address, occupation, date, cause, time lost and costs filed in a ledger book or card file	10	
3. Essential facts of each case analyzed and correlated with information as to possible source, cause and future prevention	6	
4. All cases reported to public authorities as required	4	
B. Administration and Supervision		40
1. All executives participated in accident prevention program	10	
2. Routine established to fix supervisory and employee responsibility	10	
3. Safe methods of manufacturing or operating procedure continuously enforced, and penalties applied when necessary	10	
4. Safety practice motivated through supervisors' and employees' committees, meetings, and rallies	10	
C. Medical Examinations and Treatment		40
1. All employees exposed to special occupational hazards given a periodic medical examination	20	
2. All employees who had occupational disease, poisoning or accident, brought immediately to professional attention for first aid treatment	20	
D. Inspection and protection		40
1. Regular periodic inspections of factories and shops, made according to approved standards of sanitary practice, to protect employees against occupational diseases, poisonings and accidents	20	
2. All necessary mechanical devices or guards in use for the environmental and personal protection of workers against injury	20	
E. Education		40
1. All employees had instruction on accident prevention through bulletin boards, posters, talks and moving pictures	20	
2. All employees exposed to particular occupational diseases, accidents or poisonings had special instruction on the causes and methods of prevention of same	10	
3. All employees had group instruction and practice on first aid and safety through special classes or contests	10	
F. Laws and Regulations		10
1. All public laws and company safety rules and regulations complied with	10	
Maximum Total Score		200

appraisal plan for measuring the industrial safety program are:

1. It outlines a complete program of essential industrial safety activities and through a scoring method makes it possible to bring out the strong and weak spots in any particular program.

2. It presents a chart to guide a company's activities in the safety field and makes possible a rating or scoring against ideal assigned values of the various items.

3. It indicates how thoroughly these activities are being administered.

4. It supplies standard units of measurement by which progress of the safety program from year to year may be followed.

5. It is an additional check on the end results of safety work. If the end results, such as the number of accidents, are not what they should be, this plan may indicate whether the program or the responsible individual is at fault.

6. It should stimulate a keener interest in the safety program through the entire personnel of a company.

7. It serves to integrate the safety program with the whole industrial health program, and the latter with the complete personnel and industrial relations service of a company.

Suggestion Systems in 1932 and 1933

By Paul L. Stanchfield and Z. C. Dickinson, *University of Michigan*

The progressive decline in the number of suggestions submitted by employees during the depression years sets one to wondering about its cause. Is it a symptom of lowered morale? Have employees come to consider the rewards inadequate? Has management been neglecting to stimulate the passage of ideas up and down the line?

Annual data on suggestion system operations during 1932 and 1933 are tabulated for 22 establishments of 19 companies, including six which were unable to furnish data in the last study made (1931). Suspension of three systems since 1931 leaves in operation 20 out of the original 29. A decline in the number of suggestions submitted, per thousand employees, is reported in most cases for the period from 1930 through 1933. Partial figures suggest a reversal of this trend in the early months of 1934. Percentage of suggestions adopted has shown no general upward or downward movement. Amount of average award shows a distinct decline from 1930 through 1932, but no general shift is evident in 1933.

THIS article brings up to date a comparative record of the operations of the suggestion systems of certain companies which contributed materials to earlier studies. An article in this Journal compared the workings of such schemes in 26 companies for one year (usually 1925) or for the average of several years.[1] Similar data for most of the years 1926–1930, inclusive, were provided by nineteen of these companies and three others, and presented in another paper.[2] A third article compared the record of fifteen firms in 1931 with their records for 1926–1930, and reported on the status of the suggestion systems of several other companies which were unable to furnish detailed statistics at that time.[3] Now we present information and inferences concerning the results obtained by nineteen of the above-mentioned companies during the years 1932 and 1933.

In the third article it was possible to give particulars for the year 1931 for only 14 of the 29 companies which had supplied data for one or both of the original reports. The real mortality of suggestion schemes, however, was much lower than this comparison suggests, since some companies indicated that their systems were still in

[1] Z. C. Dickinson, Suggestion Systems Compared. *Personnel Journal*, 1928, 7: 12–17.

[2] Z. C. Dickinson, Suggestions from Workers: Schemes and Problems. *Quarterly Journal of Economics*, 1932, 46: 617–643.

[3] Z. C. Dickinson, Suggestion System Operations, 1926–1931. *Personnel Journal*, 1933, 12: 16–22.

operation, though statistics were not available for all years. Twenty-four of the original 29 systems were still operating in 1931. Of the others, only two were known to have been definitely discontinued, while two others had "suspended" operations, and one had not responded to inquiries since 1926. Despite the financial stringency of 1930–31, only one discontinuance could be definitely attributed to the depression.

Inquiries for information on suggestion system operations were sent, during 1934, to the 29 firms, and all but two responded. Only one company (No. 28) reported that its suggestion system had been suspended since 1931, but in some other cases operations were on a restricted basis. Two firms (numbered 15 and 29 in previous reports) indicated that their systems were still theoretically in operation, but had become so nearly dormant that they were unable to furnish comparative data on the same basis as in earlier years. Of these three virtual suspensions, it should be noted that two (Nos. 15 and 28) were of British firms. Nineteen companies (including six which had not reported on their 1931 experience) furnished data for the years 1932 and 1933, which are given in table 1.

The tables given for 1932 and 1933 have been simplified by the omission of Columns 8–13 of the earlier reports. Reports given spontaneously by some of the firms show no significant differences in the items eliminated, which were the range of awards, recidivism, and the relative importance of women's suggestions; no reason is apparent why they should have changed. Employee representation, on the other hand (Column 13 of earlier tables) has obviously taken a new turn since 1932, which may in time have significant effects upon suggestion schemes.

In consideration of the probable importance of employment levels in modifying the results received from suggestion systems, an attempt was made to obtain information upon both the average number of employees on the payroll and on the total man hours worked in each firm in 1929, in 1932, and in 1933. (See Columns 4-a and 4-b; 1929 = 100).

Although the number of concerns is rather small and the statistics furnished are not completely comparable, these data indicate certain general trends, from year to year, in the number of suggestions received per thousand employees. Table 1 presents, in addition to the figures for 1932 and 1933, an earlier record for each firm to serve as a "bench-mark" or norm for purposes of comparison. In most cases this base figure refers to a group of years (preferably 1926–29), but for some firms the record for a single (specified) year had to be used. To aid in understanding the changes between 1929 and 1933, it is useful to summarize the changes which occurred during 1930 and 1931, which are not presented in detail in the Table. During 1930, the number of suggestions per thousand workers showed a marked upward trend in most of the firms reporting. When the record of each individual plant for 1930 is compared with the average record of the same establishment for the series of years before 1930 (or, when such series are lacking, with the latest

TABLE 1

ESTAB. NO.	INDUSTRY, LOCATION	SIZE[1]	PERIOD	AVG. NO. EMPLOYEES AS PER CENT OF NO. IN 1929	TOTAL MAN HOURS WORKED IN YEAR, AS PER CENT OF FIGURE FOR 1929	NO. SUGGESTIONS PER 1000 EMPLOYEES	PER CENT AWARDED[2]	AVERAGE PAYMENT PER AWARDED SUGGESTION[3]
(1)	(2)	(3)	(4)	(4-a)	(4-b)	(5)	(6)	(7)
1	Rubber mfg., mid-west	Large	1926–29			273	14	$15.18
			1932			188	22.5	8.60
			1933			163	23	13.85
2	Rubber mfg., mid-west	Large	1926–29			170	24	10.61
			1932	57		200	24	10.00
			1933	61		181	32	9.26
3	Rubber mfg., mid-west	Medium	1930			100	10	12.30
			1932	95	83	12[5]	75[5]	[9]
			1933	103	94	8[5]	75[5]	[9]
4-a	Electrical mfg. east[6]	Large	1930			187	25	6.85
			1932	39[4]	25	201	34	6.72
			1933	35[4]	23	196	36	7.23
4-b	Electrical mfg. east[6]	All plants	1928–29			101	27	6.00
			1932	36	28	148	32	6.56
			1933	39	33	117	30	7.27
5-a	Electrical mfg. east[6]	Large	1926–29			294	33	15.81
			1932		29	133	35.3	9.15
			1933		29	145	29	9.20
5-b	Electrical mfg. east[6]	Medium	1926–29			219	31	10.09
			1932		43	308	35	6.30
			1933		48	130	28	5.90
8	Paper mfg. east	Medium	1930[7]			533	28	4.28
			1932			138	19	5.60
			1933			50	16	5.41
9	Paper mfg. east	Medium	1926–29			593	30	7.87
			1932			377	26	10.88
			1933			508	20	9.69
12	Brass mfg. east	Medium	1926–31			67	34	7.40
			1932	70	51	100	33	5.42
			1933	88	71	40	45	5.05
13	Food mfg. British	Large	1927–29			120	31	3.75
			1932	85	91	215	34	3.79
			1933	86	94	175	29	2.96
14	Food mfg. British	Large	1927–29			559	16	3.12
			1932	97	99	410	20	4.00
			1933	97	100	416	20	3.77
18-a	Chemical, east	Medium	1927–29			540	23	11.00
			1932			493	25	10.83
			1933			420	25	10.24
18-b	Chemical, east	Large	1927–29			219	38	6.39
			1932			211	33	4.61
			1933			252	34	4.65

TABLE 1—*Concluded*

ESTAB. NO.	INDUSTRY, LOCATION	SIZE[1]	PERIOD	AVG. NO. EMPLOYEES AS PER CENT OF NO. IN 1929	TOTAL MAN HOURS WORKED IN YEAR, AS PER CENT OF FIGURE FOR 1929	NO. SUGGESTIONS PER 1000 EMPLOYEES	PER CENT AWARDED[2]	AVERAGE PAYMENT PER AWARDED SUGGESTION[3]
(1)	(2)	(3)	(4)	(4-a)	(4-b)	(5)	(6)	(7)
19	Public utility, midwest	Medium	1926–29			306	27	7.50
			1932	78		185	7	6.00
			1933	82		275	7	7.25
20	Public utility, midwest	Large	1926–29			178	17	8.95
			1932	74		144	13	26.25
			1933	71		146	16	19.30
21	Public utility, east	Large	1926–30			331	17	8.25
			1932			149	22	7.14
			1933			153	27	4.81
23	Department store, east	Large	1925			114	17	3.72
			1932	107		34	8	3.00
			1933	92		90	8	6.75
24	Department store, east	Medium	1930			150[5]	10[5]	2.00[5]
			1932[8]					
			1933	100		42	16	1.20
25	Department store, east	Large	1927–29			70	17	4.50
			1932	119		60	20	3.46
			1933	121		75	16	3.52
26	Life Insurance, east	Large	1929			20	34	9.00
			1932			15	50	7.71
			1933			16	42	7.31
27	Machinery mfg., British	Small	1926–29			2,884	40	3.50
			1932	83	78	6,460	35	1.98
			1933	93	91	5,850	32.4	2.00

[1] "Large" = 5,000 or more employees; "medium" = 1,000 to 5,000; "small" = under 1,000.

[2] Or, "accepted," i.e., given some sort of cash or honorary award. In some cases a suggestion receives an award without being actually put into operation.

[3] Total payments in year (including regular, special, and supplementary prizes) divided by number of suggestions awarded during the year.

[4] This index is here calculated with 1930 used as a base instead of 1929, which is the base in all other cases. In earlier reports, a link-relative, giving number on payroll as a per cent of number in the preceding year, was used.

[5] Estimated.

[6] 4-a is a single plant, while 4-b covers all plants of the same company. 5-a and 5-b are two plants of a single corporation, likewise 18-a and 18-b.

[7] 1930 is used as base-year for this firm because a lower standard of acceptance, operative up to the middle of 1929, makes earlier figures uncomparable.

[8] In operation during 1932, but no records kept.

[9] Indefinite. Wage increases and promotions.

single year reported prior to 1930), the number of suggestions per thousand employees is significantly larger in 16 cases, smaller in 5 cases, and shows no significant change in two cases.[4] (There was no indication of a decline in quality, since both the percentage of acceptance and the real value of the average award were maintained in most cases.)

This tendency was reversed in the following year; the quantity index for 1931 was lower than that for 1930 in 11 cases, unchanged in one case, and higher in only 5 cases. Only seven plants, however, reported a volume of suggestions in 1931 which was significantly lower than in the base period. This decline continued through 1932, and also through 1933 at a diminished rate. The number of suggestions per thousand workers in 1932 was lower than in 1931[5] in 14 cases, unchanged in one case, and higher in four. Other firms, moreover, which had suggestion systems in operation in 1931 and 1932, but could not furnish detailed statistics, reported a marked decline in the number of suggestions received. In 1933 the downward trend was more moderate: nine plants received fewer suggestions than in 1932, the index was unchanged in four cases, and higher in six cases. By 1933, the quantity index was significantly below that for the base period in 12 cases, unchanged in 3 cases, and higher in 5. Six of the decreases were of more than 40 per cent of the original figure, while only two of the increases (both British firms) were over 20 per cent. Several informants have remarked that suggestion results for 1934 are running distinctly higher again. Company No. 19, for example, reports that it received more suggestions for the first four months of 1934 than during the entire year in 1932.

An increase in the number of suggestions *per worker still on the payroll* might be expected, a priori, during periods of declining employment, since the general quality of the working force is apt to be increased by lay-off of the less competent employees, and those retained have an increased incentive to work up suggestions (either to attract favorable attention, or to augment declining wages). This expectation seems to be borne out by the figures for 1930. The increased economic difficulties of 1931–33, however, apparently introduced new factors, resulting in the reduced volume per employed person described above. One of these influences may have been, as some correspondents have suggested, that the average worker became so concerned with the possibility of losing his job that he devoted his whole attention to his assigned task, neglecting "non-essentials." The reduced volume of business may have reduced the opportunities for worth while suggestions, even if the worker were

[4] In this discussion changes of less than five per cent in the number of suggestions per thousand employees will be reported as "unchanged." Where two plants or branches of a single firm have contributed separate data (e.g., 5-a and 5-b, or 18-a and 18-b) they are considered as separate cases, since such plants often show variations dissimilar to those of their fellows under common ownership.

[5] In three cases (Nos. 3, 24, and 26) the comparison is with the record for 1930, since no figures are available for 1931.

as alert as ever; and the nucleus of workers left on the payrolls may have been handicapped as suggesters by such factors as age or clerical or supervisory position. Many firms, moreover, probably devoted less resources to stimulating and publicizing their suggestion activities.

The decline in quantity of suggestions cannot, it appears, be attributed in any large measure to policies of diminished payment or to a general lowering of the percentage of acceptances. The ratio of awarded suggestions to total suggestions showed no distinct upward or downward tendency between the base period and 1933. In five out of 20 cases this "acceptance ratio" had not changed by more than 3 percentage points; in eight cases the ratio was significantly higher, but the change was more than ten per cent in only three cases; and declines of more than three per cent occurred in seven cases, but only three of these were over 10 per cent. That changes in acceptance ratio have no direct causal effect upon the number of suggestions received, is suggested by the fact that four of the seven firms reporting the greatest declines in number of suggestions received (from base period to 1933) reported substantial *increases* in the acceptance ratio—increases of from 7 to 13 percentage points (Nos. 1, 12, 21, and 24). It may be that in these cases the causes which led to a decline in the number of suggestions *submitted* tended to weed out a large proportion of the poorer ideas, but did not restrict the reception of the more valuable suggestions.

A summary of the changes in the amount of the average award given for accepted suggestions is presented in table 2. This table shows the relationship between the average awards given by American plants in each of the years 1930–33, and the award given by the same plants in their base period. A clear tendency is evident, especially in 1932 and 1933, for the average award to be lower than in the base period; but in most cases the decline was probably not great enough to reduce the ratio of the award to the employee's wage or his cost of living. Reduced awards may reflect, in part, a decline in the "technical" value of suggestions to the employing firm—since, during a time of business recession, each unit saving

TABLE 2

Amount of average award

Number of U. S. plants giving, in each year, an average award for accepted suggestions amounting to indicated percentage of same plant's award in base period—usually 1926–29

YEAR	LESS THAN 80	80 TO 95	95 TO 105	105 TO 120	MORE THAN 120	
1930	1	4	3	2	5	(N = 15)
1931	3	5	1	2	2	(N = 13)
1932	7	3	2	1	3	(N = 16)
1933	6	4	1	1	4	(N = 16)

is repeated in small-quantity instead of large-quantity production.

The percentage of survivals among the systems which have been studied may well be higher than in industry at large, since the specific concerns included (utilities, stores, food industry, and large manufacturing concerns) may have been more sheltered from the economic pressure of the past few years than industries in general. It appears, however, that suggestion systems which once become solidly established are likely to survive even when retrenchments are in order; of the nine schemes which have been discontinued or suspended since 1925, seven had never shown markedly successful activity.

The suspension of suggestion operations by two of our five British concerns probably does not indicate a similar decline in British suggestion systems, since each of the two concerns was somewhat exceptional. The rather outstanding success of the other three British concerns might even suggest that in England, where the depression was no novelty in 1929, suggestion operations have gone on much as usual since that year.

Interests and Sales Ability

By Edward K. Strong, Jr., *Stanford University*[1]

In 1927 Dr. Strong found partial evidence for the conclusions which he makes in this article. But he did not publish this; more research was necessary. Now, after seven years, he demonstrates the usefulness of his Vocational Interest Test in selecting life insurance salesmen. Two-thirds of the salesmen who get an A interest rating are successful in their occupation, whereas only 6 per cent of those who grade C on the test are successful.

A STEADILY increasing number of life insurance managers are using the Vocational Interest Test as an aid in the selection of insurance agents. Some of these managers go so far as to say that scores on this test are more significant than their own judgment, and they have very interesting stories to tell in support of their claim. What are the facts?

Scores for life insurance interest indicate how nearly the likes and dislikes of an applicant coincide with the likes and dislikes of the average insurance agent of at least three years experience, writing at least $100,000 paid-for business annually.[2] The assumption is that if the applicant has the interests of men who are successful in the business he will similarly fit into that same working environment. Is the assumption a sound one? Is there a genuine relation between interest and ability?

PRELIMINARY INVESTIGATIONS

In 1927, 67 life insurance agents filled out the Cowdery Interest Test and supplied the writer with their paid-for production for the three years

[1] Read in part at the meeting of the Western Psychological Association on June 22, 1934.

[2] The scores range from −430 to 600. It is usual to express the scores in terms of ratings. A rating of A (scores of 223 to 600) means the applicant has the interests of a successful insurance agent; a rating of C (scores of 10 to −430) means he does not have such interests; ratings of B+ (143 to 222), B (55 to 142) and B− (11 to 54) are intermediate, meaning he probably has those interests but one can not be so sure of it as in the case of A rating.

It is quite possible for one to check the Vocational Interest Test deliberately so as to receive a high rating in a particular occupation. Consequently, the subject should be made to realize how advantageous it is to him to find out what his occupational interests really are. When he approaches the test with this attitude he is not apt to falsify his responses. Proper motivation is needed less in the case of applicants for the life insurance business than in almost any other occupation because many have to be induced by the general agent to consider this occupation. Consequently, if there is error in checking the blank because of improper motivation, it is as likely to result in too low as too high a life insurance interest rating.

1924–26. Nearly all these men lived in San Francisco and represented at least a dozen different insurance companies. A follow-up a year later showed that 44 were still with the same agency, 9 had transferred to another agency and 14 had left the insurance business. Because of a subsequent radical revision of the interest test these data can not be incorporated with the remainder and are reported separately.

Table 1 gives the average annual production of the 67 insurance agents.

TABLE 1

Average paid-for production, 1924–26, of 67 life insurance agents according to interest test ratings (Cowdery blank)

	LIFE INSURANCE INTEREST RATINGS					
	C	B−	B	B+	A	Total
67 agents: number	3	16	14	18	16	67
67 agents: average annual production	58,000	55,000	126,000	167,000	289,000	156,000
44 agents remaining with agency: number	0	7	8	13	16	44
44 agents remaining with agency: production	0	57,000	158,000	200,000	289,000	202,000

The three agents who rated C in 1927 averaged only $58,000 production, and all of them left the business the following year. Sixteen others rated B− with an average production of $55,000. Four of these transferred to another agency and 5 left the business. On the other hand the 16 men rated A all remained with the agency the subsequent year. The table shows a very definite relationship between interest rating and production. The A men wrote over five times as much as the C or B− men, over twice as much as the B men and nearly twice as much as the B+ men. Moreover, the turnover is greatest with the C and B− men and least with the A men.

If only men with B ratings or better had been given a contract, 19 of the 67 would not have been employed. This would not have been a particular loss for only one of the 19 wrote as much as $100,000 and the entire group averaged only $56,000. Moreover, 12 of the 19 left the agency in 1927, so that only 7 remained and they were all poor producers. On the other hand, of the 48 who would have been employed, 5 wrote less than $100,000 and 32 more than that amount, while 11 left the agency, five going to another agency and 6 leaving the business. Selection at the level of B rating eliminates almost no successes but includes some failures. Selection at the A rating level eliminates all failures in this particular group but also some successful men.

The data in table 1 show such surprising correlation between life insurance interest scores and production that at the time the writer did not feel warranted in publishing them until they could be substantiated by further evidence. The next section records

the data that have been subsequently accumulated.

SOURCES OF THE DATA

The data reported below have been obtained from four different sources which are referred to by the letters W, X, Y, and Z.

W. In 1927 a medium sized life insurance company supplied the writer with a list of all its agents who had had at least 36 months experience and had written at least $100,000 paid-for insurance in 1926. In 1931 the paid-for production of these men for the years 1926 to 1930 inclusive was supplied. One hundred and two men continued with the company at least two of these five years and the data given below are based upon them. They have had an average of 8.9 years of experience and have averaged annually $225,648 of paid-for production during the years 1926 to 1930 inclusive.[3] All of these men filled out the Vocational Interest Test in 1927.

X. During the last five years the manager of a relatively small city agency has required applicants to fill out the interest test, and these blanks together with a complete record of production from date of contract to December 30, 1933 have been supplied the writer. Where men were not employed or the contract was terminated, explanations have been supplied. All told, 46 men were considered to the extent of being asked to fill out the interest test, but only 20 were given a contract; and only 16 of these continued with the agency more than 3½ months. These 16 agents average 39 years of age today and 43 months of experience.

Y. In 1929 a state branch of a large life insurance company supplied paid-for production from January 1, 1926 to September 20, 1929 of all its agents, and interest test scores for nearly all these agents. Two years later the production for 1929 and 1930 was supplied. During the year 1930 the agency discontinued all part-time contracts, thereby decreasing the size of the agency very considerably. From all these records it has been possible to use only 39 cases for this study. These were all full-time men in 1930, with at least 3 years experience and averaging 8.6 years, but much of this was on a part-time basis. The remainder had had too little experience for their production record to be accepted as significant, or they had not filled out the interest test. The 39 men average 47 years of age.

Z. During 1929–30 the writer wrote to many agency managers requesting that they arrange to have at least one of their former agents fill out an interest blank, so that we might deter-

[3] The correlation between production and years of experience is .17 with this group of insurance agents. It is frequently urged that occupational interest scores must be influenced greatly by experience in the occupation. It is significant in this connection that the correlation between life insurance interest score and years of experience in the case of these 102 agents is −.06. Of course, all these men have had at least 3 years experience when they took the test and most had had many more years than that, so that this correlation is based on men of seasoned experience. But a correlation of approximately zero indicates that men with ten to twenty years' experience do not score higher than men with three to five years' experience. This is only another proof of the remarkable constancy of interests among adult men.

mine the range of life insurance interest scores of men who have tried the business and quit because of failure, lack of interest or for any other cause. The returns were very disappointing. Apparently agency managers keep no record of former employees because the majority of agents who coöperated sent in blanks of men still with the agency who were rated as "failures," "unhappy in the business," "not doing as well as they should," etc. A few blanks were received of former agents and in about half of these cases a full report was made as to length of time employed, production, and type of employment entered. From all the miscellaneous data received it has been possible to use the records of 19 men who have tried the life insurance business and clearly were unable to write sufficient business to earn a living. This group is on the average 37 years old with one year of college education and has had 2.6 years' experience writing $41,000 of paid-for business annually. Eight additional cases have been included in some of our calculations. These are men reported as "unhappy," "not doing as well as they should," etc. They have had 5.0 years' experience and have averaged $126,000 paid-for business.

RESULTS

If the life insurance interest is a significant aid in selecting applicants for the business, the following propositions should be true:

1. Successful life insurance agents score higher on the life insurance interest test than men in general.
2. Successful life insurance agents score higher than unsuccessful agents.
3. Men with low life insurance interest ratings do not earn a living in the business.
4. Men with low scores do not stay in the business whereas men with high interest scores continue in the business, even though some leave one agency for another.
5. There is a significant correlation between life insurance interest scores and production.

Table 2 indicates very clearly that the majority of successful life insurance agents rate A or B+ in life insurance interest. This is not only true of the criterion group of 288 insurance agents, upon which the test was standardized, but is true of 204 general agents and of the seasoned agents in Company W. Agency X does not contain as high a percentage of A men as Company W, having proportionately more B+, B and C men. But this agency group has had far less experience (only 35 months on the average) in comparison with an average of 8.9 years' experience for Company W. Agency Y contains still fewer A and B+ men and more C men but its production averages only $106,000, only half that of Company W. The situation is largely reversed in Group Z, particularly among those rated as "failures," for here only 28 per cent rate A and B+ in contrast to 92 per cent in Company W and 42 per cent rate B− and C in contrast to 4 per cent in Company W. The data from Stanford seniors gives some idea of the proportion of high and low life insurance interest ratings to be found

among college graduates, and indicates that successful life insurance men are far from being a random sampling of educated men as far as life insurance interest is concerned. Evidently successful life insurance agents score higher in life insurance interest not only than men in general but also than unsuccessful agents.

In order to emphasize the point that successful life insurance men score significantly higher in life insurance interest than the average man, the interest scores of 102 successful insurance agents from Company W are plotted in Figure 1 together with the scores of 222 college men tested five years after graduation. Ninety-two per cent of the successful agents rate A and B+ in contrast to only seven per cent of college graduates. Evidently the selection of successful agents (rating A and B+) is quite an art, for the general agent must consider 1429 college graduates in order to discover 100 men of this calibre.

Between these two graphs is interposed another representing 181 men, composed of the 102 described above, 15 from Agency X, 37 from Agency Y and 27 from Group Z. These 181 men are more typical of the men found in

TABLE 2

Life insurance interest ratings of certain groups of life insurance men

GROUP	NUMBER	YEARS OF EXPERIENCE	AVERAGE ANNUAL PAID-FOR PRODUCTION	LIFE INSURANCE INTEREST RATINGS				
				Per cent C	Per cent B−	Per cent B	Per cent B+	Per cent A
Criterion group of agents	288	At least 3 years	$100,000 up	1	2	6	16	75
L. I. general agents*	204			3	1	8	15	73
Company W	108	At least 3 years	225,648†	2	2	4	15	77
Company W	102	At least 4 years	207,980‡	2	2	4	15	77
Agency X, all given a contract	20	Complete record	205,000	10	0	15	35	40
Agency X, all writing $100,000 a year for at least a year	15	Complete record	258,000	7	0	13	40	40
Agency Y	37	At least 3 years	106,000§	11	5	19	33	32
Group Z, rated as "failures," "unhappy," "not doing as well as they should," etc	73	3.5 years	66,000	32	5	23	18	22
Group Z, rated as "failures" (included in above)	46	2.6 years	41,000	35	7	30	17	11
1927 Stanford seniors, 5 years after graduation	222			73	8	12	4	3

* The correlation between scores on the life insurance agent interest scale and a scale based on the interests of these 204 managers is .91.

† Average production based on 1926 only.

‡ Average production based on two or more years, 1926 to 1930 inclusive.

§ Based on 1926 to 1930 inclusive. In 1930 all the 37 agents were on full-time contract, but prior to 1930 about one-half had been on part-time production.

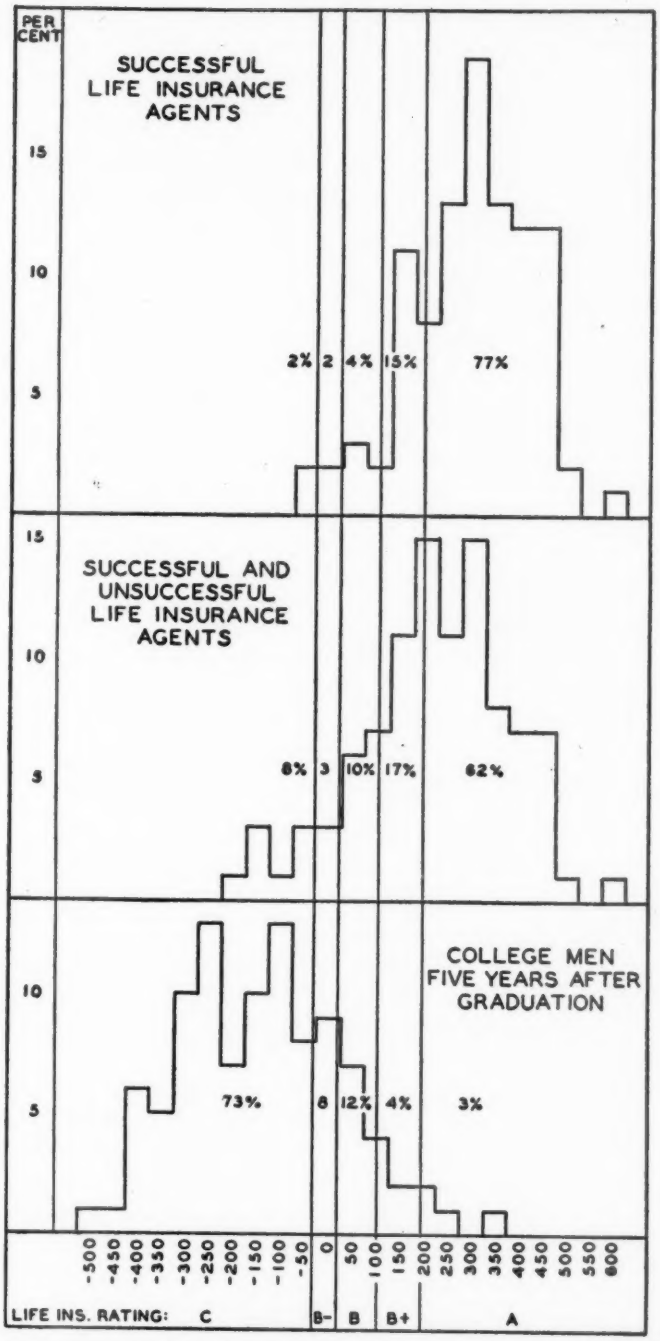


FIG. 1. DISTRIBUTION OF LIFE INSURANCE INTEREST SCORES FOR (*a*) 102 SUCCESSFUL LIFE INSURANCE AGENTS, (*b*) 181 SUCCESSFUL AND UNSUCCESSFUL AGENTS AND (*c*) 222 COLLEGE GRADUATES, FIVE YEARS AFTER GRADUATION

many agencies ranging from the successful to those about to quit and including some who are not earning a living but are still hanging on. Here are fewer men rating A and B+ and more rating B− and C. From the three graphs we can see that practically no man scoring below −100 will be successful and that no man scoring below −250 will be found in an insurance agency. But 66 per cent of college graduates score below −100 and 36 per cent below −250. Evidently successful life insurance agents score higher in life insurance interest than men in general. And the data in table 2 show that they average much higher than failures.

Another way of showing that the interests of life insurance agents are distinct from the interests of men in many other occupations is presented in table 3. Evidently the interests of the former are related to those of real estate salesman (correlation of .85) and to a lesser degree of vacuum cleaner salesman (correlation of .59) and advertising man (correlation of .43). But the correlation is low or negative with the remaining twenty-five occupations listed in the table. The data recently reported by Achilles and Schultz[4] indicate that the interests of life insurance agents from the Metropolitan Life Insurance Company are most closely related to the interests of the following: vacuum cleaner salesman, office worker, life insurance salesman, personnel manager, accountant, Y. M. C. A. general secretary, real estate salesman, etc. This apparent discrepancy is due to the fact that the Metropolitan agents are engaged primarily in selling industrial policies.

[4] P. S. Achilles and R. S. Schultz, Characteristics of Life Insurance Salesmen, *Personnel Journal*, 1934, 12: 260–263.

TABLE 3

Correlation between interests of life insurance agents and interests of men in 28 other occupations

OCCUPATION	CORRELATION
Real estate salesman	.85
Vacuum cleaner salesman	.59
Advertising man	.43
Y.M.C.A. general secretary	.38
Office man	.32
Lawyer	.31
Personnel manager	.26
City school superintendent	.22
Purchasing agent	.22
Y.M.C.A. physical director	.18
Journalist	.15
Accountant	.08
Certified public accountant	.07
Minister	.04
Policeman	−.18
Teacher	−.23
Musician	−.35
Artist	−.44
Farmer	−.47
Carpenter	−.48
Dentist	−.58
Physician	−.61
Architect	−.66
Engineer	−.72
Mathematician	−.78
Psychologist	−.79
Physicist	−.86
Chemist	−.88

Table 4 indicates that men with low life insurance interest ratings do not write enough insurance to earn a living (only $72,000 per year) and that there is a decided increase in average production with higher and higher ratings. Men with B+ ratings earn twice as much as those with C ratings and men with A ratings earn nearly three times as much. On this basis an

agency with 100 men rated A would write $191,000,000 whereas an agency with 100 men rated C would write $72,000,000. But relatively few of the C men would continue in the business a whole year and to maintain one hundred C men it would be necessary to hire at least two hundred during the year, and probably more than that number.

Table 5 tells the same story but in a different way. Only 6 per cent rated C wrote over $150,000 a year whereas 43 per cent of B+ men and 67 per cent of A men wrote $150,000 or more. If we assume that a production of $100,000 is the minimum for earning a living, then 85 per cent of A men qualify, 51 per cent of B+ men, 44 per cent of B men, and only 25 per cent of C men. The A man is 3.4 times more likely to succeed than the C man. If we assume that an income of about $2000 is necessary, which is about what is earned in writing $150,000 of business, then 67 per cent of A men are successful in contrast to 6 per cent of C men!

Another measure of success is the length of time men continue in the business; men with A ratings should continue much longer than men with B− or C ratings. Our data are not adequate to demonstrate this. The records from Company W are based on those who have been in the business

TABLE 4

Average annual paid-for production in relation to life insurance interest ratings

GROUP	TOTAL NUMBER	LIFE INSURANCE INTEREST RATINGS				
		C	B−	B	B+	A
Company W. At least 4 years' experience:						
Number	102	2	2	4	15	79
Production		$169,000	$236,000	$270,000*	$186,000	$209,000
Agency X. At least 4 months' experience:						
Number	15	1	0	2	6	6
Production†		$2,000		$135,000	$195,000	$222,000
Agency Y. Total record of 5 years:						
Number	37	4	2	7	12	12
Production		$68,000	$82,000	$101,000	$103,000	$134,000
Group Z. Rated "failures:"						
Number	27	9	1	4	5	8
Production		$60,000	$45,000	$51,000	$67,000	$82,000
Total:						
Number	181	16	5	17	38	105
Production		$72,000	$136,000	$133,000	$145,000	$191,000

* Influenced greatly by one case with average production of $674,000. Average of other three cases is $102,000.

† Production was reported in terms of actual earnings, not paid-for production. The former has been converted into the latter on basis of $13.50 for each $1,000 policy.

36 months and wrote at least $100,000 in 1926. Very few left the insurance business in the ensuing four years. The records from Agency Y are complete for only the men who had full-time contracts in 1930. Many part-time men had left prior to this time but their records are too incomplete to permit conclusions. Even in the case of Agency X, where quite complete records are available, the numbers involved are too small and the factors involved too complex to warrant any conclusions.[5] Nevertheless the writer is certain that anyone studying the data he has before him would agree that a much larger proportion of men with low interest ratings drop out of the business than men with high ratings.

Measurement of life insurance interest in this study has been based upon the interests of agents with three years' experience and an average production of $100,000 a year. It is possible that, if a similar scale were based on men averaging $200,000 a year, it would differentiate still better between successful and unsuccessful agents. Such a provisional scale has been developed using the records of only 97 men. The interest blanks of 209 agents have been scored on this scale. Those with production between one and two hundred thousand have a median score of 257 which differs significantly from the median score of 406 obtained by those averaging over $300,000 production. A scale based on only 97 men is not sufficiently reliable, however, to warrant the obvious conclusion suggested by table 6. Unfortunately we do not possess today the necessary records to establish a scale based on 250 cases, which should be the minimum number. There is need for further research here, first, because such a scale might prove to be more significant than the present one and second, because comparison between the two scales and production records might throw additional light

TABLE 5

Percentage of 181 agents in each life insurance interest rating who produce $0 to $49,000, $50,000 to $99,000 etc., annually

AVERAGE ANNUAL PRODUCTION	NUMBER	PER CENT OF AGENTS IN EACH LIFE INSURANCE INTEREST RATING WHO PRODUCED INDICATED AMOUNT OF PAID-FOR INSURANCE				
		C	B−	B	B+	A
$0 to $49,000	19	31	20	17	21	2
50,000 to 99,000	39	44	20	39	28	13
100,000 to 149,000	30	19	20	23	8	18
150,000 to 199,000	38	6	20	16	16	26
200,000 to 399,000	49	0	20	0	24	37
400,000 up	6	0	0	5	3	4
Total.....		100	100	100	100	100
Number.....	181	16	5	17	38	105

[5] Eight A men have so far averaged 40 months in Agency B; seven B+ men, 39 months; 3 B men, 29 months, 2 C men, 11 months.

TABLE 6

Interest ratings of insurance agents on a provisional scale based on agents writing at least $200,000 annually

PRODUCTION	NUMBER	PER CENT RATING					MEDIAN SCORE*
		A	B+	B	B−	C	
$100,000 to $199,999	112	67	21	10	2	0	257
200,000 to 299,999	40	81	12	5	2	0	300
300,000 and up	57	86	12	2	0	0	406
Total	209	75	17	7	1	0	303

* Difference in median scores of 406 and 257 is 7.6 times the quartile of the difference; difference between 406 and 300 is 3.5 times the quartile of the difference; difference between 300 and 257 is 1.5 times the quartile of the difference.

TABLE 7

Correlation between life insurance interest scores and production

GROUP	NUMBER	MONTHS OF EXPERIENCE	RANGE OF PRODUCTION (UNIT IS 100,000)	RANGE OF INTEREST SCORES	PER CENT PRODUCTION UNDER $100,000	PER CENT WITH C AND B− RATINGS	CORRELATION COEFFICIENT
1. Company W	102	At least 48	37 to 650	−25 to 600	14	2	.10*
2. Agency X	20	1 to 87	0 to 379	−12 to 369	25	10	.20†
3. Agency X	16	4 to 87	1 to 379	−12 to 369	19	12	.48‡
4. Agency X and subsequent agency record	26	1 to 89	0 to 379	−12 to 369	44	8	.33§
5. Agency X and subsequent agency record	22	4 to 89	1 to 379	−12 to 369	45	9	.55**
6. Agency Y	37	At least 36	26 to 271	−187 to 348	57	16	.52
7. Group Z, rated "failures," "unhappy," etc	27	3 to 120	0 to 200	−169 to 407	74	37	.23
8. Group Z, rated "failures," only	19	3 to 96	0 to 85	−169 to 407	100	42	.02
Total of 1, 3, 6, and 8	181	3 up	0 to 650	−169 to 600	43	17	.37††

* The reliability of the production criterion, based on the average of 2 to 5 years, may be judged from the following correlations: 1926 production vs. 1927, .78; 1927 production vs. 1928, .77; 1928 vs. 1929, .84; 1929 vs. 1930, .74; average of 1926 and 1927 vs. average of 1929 and 1930, .81.

† If one case is omitted, who with considerable aid from his manager sold a group policy and then resigned, the coefficient is .40.

‡ If above case is omitted, the coefficient is .79.

§ If above case is omitted, the coefficient is .50.

** If above case is omitted, the coefficient is .77.

†† Above exceptional case is omitted.

on the relationship between interest and ability.

In studies of this sort it is customary to ascertain the relation between success and the test score by correlating the two measures. Such correlation coefficients are presented in table 7. After noting the very distinct relation between interest ratings and production in the foregoing tables it is quite a shock to find that these measures correlate only .37 in the case of the 181 cases comprising most of our data. Is there any explanation? Careful analysis of the scatter diagrams makes clear that each distribution is foreshortened at one end or both and this applies not only to interest test scores but also in some cases to production figures. Such a condition lowers the correlation unduly. Thus, the range of interest scores in the first group (Company W) is between −25 and 600 (with 91 per cent above 150) which is but 61 per cent of the entire range of −430 to 600.[6] Those rated "failures" range between −169 and 407 in interest scores which is but 56 per cent of the possible range, and at the same time they range between $0 and $200,000 production which is but 31 per cent of the production range between $0 and the highest reported in our data, i.e. $650,000, and this amount is less than that of the best producers in the country. Were it possible to induce a random sampling of the population to do their best to make a success in the life insurance business, the relationship between their interest scores and production would undoubtedly be considerably higher than a coefficient of .37.

A second explanation of the low correlation coefficients is to be found in the fact that in only one case do we have anything like a complete record of all the men who entered an agency and their subsequent accomplishments. The correlation between interest score and production in this case (Agency X) is .20 when based on records from only this agency and .33 when records from other agencies are added so as to cover the agent's entire insurance experience. These coefficients are raised to .48 and .55, respectively, if the records of those with less than 4 months experience are excluded on the ground that such records must be very unreliable.[7] All four coefficients are raised to .40, .50, .79 and .77, respectively, if a single case is excluded which the manager emphatically claims should be disregarded. The manager states he did everything he could to help the man succeed but to no avail. The agent was finally assigned a group policy case and although he spent several months upon it was unable to put it over. The manager finally closed the case but rewarded the agent with such a substantial portion of the commission that it gave this man one of the highest production records in the agency. As his interest score was the lowest, this record very substantially

[6] A general agent has recently reported a score of 799.

[7] One new agent may sell $10,000 to his family and quit after one month, giving him an annual production of $120,000. Another man may sell $5,000 monthly for seven months and quit, giving him a record of $60,000; etc.

lowers the correlation when included in the calculations.

The third explanation of the low correlation coefficients is that they do not really measure what we want measured but something else.[8] The low correlation coefficients indicate that there are some men with low interest scores that write a considerable amount of insurance and vice versa. But these coefficients do not at all tell the story that among successful agents (e.g. Company W) 92 per cent will be drawn from approximately 7 per cent of college men who rate A and B+ and that 4 per cent will be drawn from 81 per cent who rate C and B−. If 100 college graduates were hired at random, the chances would be very slight that any one of the 73 C men would succeed whereas the chances are good that the 3 A men would succeed, other things besides interest being disregarded. In other words from the practical point of view it is not at all necessary that a test foretell the order in which men will produce. What is very desirable in business today is that applicants who will succeed shall be employed and that those who will not shall not be hired. Anything that will aid the manager to increase his present efficiency even ten per cent is worthwhile. An outstanding agency supervisor, for example, recently reported to the writer that according to his records only one successful agent was secured from forty contacts. Increasing the number of successful agents from one to two among forty is not a large increase in efficiency of selection yet it does represent an increase of one hundred per cent in production and a decrease of one half in expense of time and money of general agents.

The fourth explanation of the correlation of .37 between interest scores and life insurance production is that this is as high a relationship as may actually exist. Surely these are factors other than interest that determine success as an insurance salesman. These are discussed in the following section.

FACTORS WHICH DETERMINE SUCCESS IN SELLING LIFE INSURANCE

Success in selling insurance may be attributed to at least four general factors—age, interest, character, and economic status. From experience we know that young men seldom succeed in the life insurance business; clients want counsel concerning their private affairs from men of some maturity.[9] From experience we also know that although older men may continue very successfully in the business if they entered it when younger, they seldom succeed if they enter late in life. A man may have the necessary interest, but if he is dishonest he will be discharged as soon as that fact

[8] One can not help but wonder how often a low correlation between the scores of some test and production records has been accepted as proof that the test is useless, when it might have been possible to have set up two critical scores, those applicants scoring above the higher of which would prove to be quite likely to succeed and those scoring below the lower would prove to be quite likely to fail.

[9] There appears to be, however, a growing conviction among general agents that, if young men of the right calibre are properly trained for the business, youth is not as great a handicap as previously considered.

is discovered. The same thing is true if he "does not fit into the agency;" is, for example, disliked by his associates, makes trouble, or undermines the morale of the group. Similarly, a man may have the necessary interest, but if he has independent means he will probably not exert himself sufficiently to make a real success. If he does not possess the interests of life insurance men he may be honest and industrious but he will usually fail, and if he doesn't he will succeed at the price of daily disliking his work, which is a very great handicap.

Selection of men for the insurance business must be more or less on the "all or none" basis. If a man lacks the requisite honesty and personality, he should not be considered. Second, he should not be considered if he lacks the requisite interest (A and B+ rating and possibly B rating). Third, if he does not have the necessity of earning a living, he should ordinarily not be employed. After studying the production records of many thousands of salesmen, not only in the insurance business but elsewhere, the writer is convinced that among men with the requisite honesty, personality, interest and ability, the most important factor determining amount of production is the standard of living the salesman has set for himself and the necessity of maintaining that standard through his selling efforts. If a man is used to living on $1500 a year he will usually earn no more, if he is used to $5000 a year he will earn that amount. Any one of these men could double his sales if he really wanted to. The increased production during a sales contest is ample proof of this fact. In other words, even interest, character and ability may not mean maximum production. Incentive or "drive" must be added.

SUMMARY

Successful life insurance agents score higher in life insurance interest than unsuccessful agents and men in general.

Although many men with low life insurance interest ratings enter the business, very few continue in it and still fewer write a satisfactory volume.

Judging from our data, 85 per cent of insurance agents with an A interest rating write $100,000 or more insurance a year in contrast with 51 per cent of B+ men, 44 per cent of B men and 25 per cent of C men. In terms of an annual volume of $150,000 paid-for insurance 67 per cent of A men are successful in contrast to 43 per cent of B+ men, 21 per cent of B men and only 6 per cent of C men.

Many factors contribute to success in selling insurance. It appears that for a man to be successful he must have a sufficient amount of each factor. It is rather questionable whether absence of one factor can ordinarily be offset by unusual amount of another. Certainly no amount of ability to meet people compensates for dishonesty or for lack of economic necessity to earn a living. Applicants should be employed only when they have the requisite amount of each of the factors contributing to success.

The data establish the fact that there is a genuine relationship between interest and ability, but they are inadequate for determining the exact relationship.

Work Interests of Junior Executives

By Clarence Fraser, *Bell Telephone Company of Canada*

To picture the varied types of work done by younger executives and to ascertain in systematic interviews their preferences for these different kinds of work, helps both men and management.

IN ONE of the operating departments of a telephone company, a small number of men supervise the conditions necessary to establishing connections. Such supervision requires knowledge of the operation of all telephone equipment, of operating practices, of force arrangements to meet an ever-changing load, and of wages and working conditions, for large numbers of women workers. It demands skill in interviewing, in conducting conferences, in writing narrative reports and in constructing statistical summaries. Personal qualities called for are appearance and manner, oral and written expressiveness, tact, judgment, imagination, leadership, organizing ability and coöperativeness. These qualifications of knowledge, skill and personality are necessary to control, with the associated organization, the rapid ebb and flow of thousands of calls in simultaneous motion.

To provide men capable of managing territorial districts and divisions of such a network, a careful employment and training plan is followed. An annual graphic rating is applied by two supervisors against each man in the department. This rating is designed to measure the progress in his work of each man, including men already appointed to the management of district and division areas, and their assistants.

In order to find a way of determining the types of work that appeal most to men in such a group, a study was made as follows. Seven junior men were selected. Of this group, the ages ranged from 27 to 34, with an average of 30 years. The lengths of service range was 4 to 10, with an average of 6½ years. All were university men, 2 having taken engineering, 3 arts, 1 arts and law, and 1 commerce and finance. Each man was considered fully trained for his position and successful in it.

Listing Work Interests. In order to list the work done by supervisory and engineering men in this company, against which these men could record their interests, a number of headings were selected. Work on which a man may specialize by devoting most of his time to it was distinguished from field management where a great many diverse pieces of work must be directed. This distinction came out of interviews held the previous year, when men had appeared to favor one of these general classes of work more than the other. Specialized work was then sub-grouped

INTERESTS IN TYPES OF TELEPHONE WORK DONE BY ENGINEERING AND SUPERVISORY MEN

The nature of your background puts you in the group of men in this company, termed "Engineering and Supervisory." So that both you and the company may gain the most from your work, it is important that the work that interests you most be known. You are asked to record your interests in the two sections below.

Specialization

Study the following four classes of work, then indicate which one you would prefer most, by entering 1, in the box to the right of the paragraph describing that class. Enter 2, 3 and 4 to show your second, third and fourth choices respectively, in the proper boxes.

Then consider the particular department in which you would prefer to do each class of work, and show the numerical order of your preference; 1, meaning first choice, by entering the proper numbers in the boxes below each paragraph describing each class. The meanings of the department codes are shown at the bottom of this form.

Choice of Class

1. *Engineering Equipment*—involves design, quantity, location, layout, construction, maintenance and repair of outside, station and central office telephone equipment. This work is done mainly in the Engineering Dept. and the three operating departments—Commercial, Plant and Traffic. It calls for a knowledge of and interest in mathematics, the natural sciences and similar subjects.
   EN☐ C☐ PL☐ T☐ ☐
2. *Analytical and Statistical*—involves accounting of departmental and company performance, especially in terms of cost but with departmental quality measurements also; some statistical work on economic trends is included. This work is done in the Financial, Accounting the three operating departments. It requires a sound knowledge of and interest in mathematics especially, with statistics and economics important additions.
   A☐ C☐ F☐ PL☐ T☐ ☐
3. *Constructing Methods of Operation and Narrative Records*—involves writing circulars, narrative reports, publicity, etc. This type of work is done in all departments, but is a specialty in the Publicity Dept. It requires ability and interest in the use of language and composition.
   A☐ EN☐ EX☐ C☐ F☐ PL☐ PU☐ T☐ ☐
4. *Personnel Administration*—involves selection, placement, training and compensation of the individual employee and measures to retain the workers' good-will toward group co-operative efficiency. This work is done in all departments but is a specialty in the Executive Dept. It requires a knowledge of and interest in psychology, sociology and economics
   A☐ C☐ EN☐ EX☐ PL☐ T☐ ☐

Field Work

Instead of specializing on any one of the classes of work shown above, would you prefer supervisory or management field work?

Check: Yes☐ No☐

If you have checked "Yes," what department would you prefer? Check numerically:

C☐ PL☐ T☐

Department Codes

A	Accounting	F	Financial
C	Commercial	PL	Plant
EN	Engineering	PU	Publicity
EX	Executive	T	Traffic

Signature.....

Date.....

Note: **If you wish to add any comment, use reverse side.**

FIG. 1

Where Engineering and Supervisory Work Is Done

	Classes of work			
	Engineering Equipment	Analytical and Statistical	Methods and Narrative Records	Personnel Administration
	1	2	3	4
Specialization				
Executive Dept.				
Ass't to Vice-President		V	V	V
Publicity Manager			V	
Secretary Treasurer		V		
Financial Dept.		V		
Accounting Dept.				
Assistant Comptroller		V		
Chief Accountant (incl. statistician) and methods		V	V	
Chief Traveling Auditor		V		
Auditor of Areas		V		
Operating Department				
Directory Manager		V	V	
Rate Engineer		V		
Sales and Development Engineer		V	V	V
Plant Extension Engineer	V			
Transm. & Foreign Wire Relations	V			
Staff Engineer	V	V		V
Inventory and Cost Engineer	V	V		
Commercial Department				
Gen'l Comm. Supervisor		V	V	V
Gen'l Comm. Engineer	V	V		
Sales Promotion Manager		V	V	V
Engineering Department				
Buildings and Equip. Engineer	V			
Outside Plant Eng'r	V			
Plant Extension Eng'r	V			
Transmission Eng'r	V			
Plant Dept.				
Gen'l Plant Supervisor	V	V	V	
Gen'l Employment and Safety Supv'r		V	V	V
Traffic Dept.				
Gen'l Traffic Supervisor		V	V	
Gen'l Traffic Engineer	V	V		
Gen'l Employment Supervisor		V	V	V

Field Work

Includes division and district work in Commercial, Plant and Traffic Depts.

Fig. 2

into engineering, analytical and statistical, writing, and personnel administration. These subdivisions were associated with the supervisory or engineering work done in all departments. This appeared necessary to permit each man expressing a work interest, to relate it to a particular department. A form was then designed (see fig. 1) for each man to study and enter. An associated form showing where each of the various classes of work is done, by departments, was also provided (see fig. 2).

The Interviews. Each man was allowed a few weeks to clear his mind on his own interests and was then interviewed. The interviewer was a supervisor who had become quite well acquainted with all the men during practically their entire period in the company. While the interviews were guided by the interviewer toward a frank expression of the interviewee's work interests, ample time was allowed to talk around each point and to get behind a stated preference. Each man realized that his future appointments might be influenced by his stated choices. An attitude of thoughtful self-interest was shown in every case.

Work Interests and Early Environment. One pertinent fact appeared in a number of interviews. A man would trace a dislike for some class of work to some experience early in his life. For example, a dislike for mathematics was traced, quite voluntarily, back to school-days, when difficulty in doing arithmetic had been aggravated into a strong distaste by the driving tactics of a school teacher. Another man traced a hesitancy in and a distaste for speech and writing to a boyhood spent in the country, where an opportunity to practice the use of a broad vocabulary had not existed. One man attributed a dislike for work which involved meeting people to a boyhood in the country and to nicknames applied in school, associating him with a rural upbringing. Another, who placed management as a first choice, said that as a boy he had enjoyed watching his father, a foreman, "boss" his men, and that he had not played games unless he could be the captain.

Work Interests and Type of University Training. Of the two men who had taken engineering courses, one placed engineering work as a third, and the other as a fourth choice. Both put management first, analytical and statistical work second. One put personnel administration third, and the other fourth. Both put writing last. Both appeared to dislike "routine" engineering.

Of the three men who had taken arts, two put management first, while the third man gave analytical and statistical work first choice. All put engineering as last choice because their education had not equipped them sufficiently with the physical sciences. Writing, which one might expect would place high with men of this scholastic background, was placed as second, third and fourth choice, respectively.

The man with arts and law schooling, chose as follows: management, analytical and statistical, personnel administration, writing, engineering.

The commerce and finance man voted strongly for publicity writing as

first choice followed by management, personnel administration, analytical and statistical, engineering. Despite his schooling in accounting, he was "more interested in people and ideas than in statistics."

Work Interests and Leisure Interests. One man, with first choice analytical and statistical work, said in idle moments he amused himself by mentally multiplying three digit figures together.

A man with university engineering background, who puts personnel administration ahead of engineering choice, said his field of reading is in sociology, psychology, economics and philosophy.

A man with a dislike for mathematics but a growing interest in personnel administration, is making a careful study of anatomy. His personal library is well stocked with medical texts.

The man who puts publicity writing as first choice, keeps a portable typewriter at home and essays odd bits of imaginative writing.

Work Interests and Capacities. Most of the men avoided selecting as high choices, types of work for which they knew they were not fitted by capacity. With one exception, the men appeared to choose as first choice that which they appear to do well. Evidently, they were not only expressing their work interests, but in their self-analysis they had coupled interests with capacities.

USES OF THE STUDY

1. This inquiry has already resulted in one transfer to other work from the fourth choice to a second choice for this man: his first choice is not yet available. The desirability of transferring another man from his second to his first choice is seen.

2. Each man has oriented himself in his preferences and capacities, in relation to types of work available. This is considered as basic to the continuation of a self-directed learning process.

3. It has opened up to higher management a view of the possibilities of this subjective approach to a man's interests in enlisting them toward the purposes of the undertaking.

The A-S Reaction Test

A Study of Beckman's Revision

By Samuel N. Stevens, *Northwestern University*, and Eldon F. Wonderlic, *Household Finance Corporation, Chicago*

The authors make available the results of their experience with Beckman's revision of the Allport Test of Ascendence Submission, which has been used as a measure of a person's disposition to dominate his fellows.

In THE Personnel Journal for April, 1933, R. O. Beckman,[1] presented a revision of the Allport[2] Test of Ascendence-Submission, Revised for Business Use. On both the original and revised form, the test presents to the subject many situations in which he is required to indicate his customary behavior by checking one of a number of responses which are positively and negatively weighted in scoring. A sum of the weights gives a final score which, if positive, is supposed to indicate degrees of ascendent types of personalities and, if negative, indicates a submissive personality.

Beckman's revision is a much shorter form than the original A-S Test. He eliminated all of the academic situations, so that the number of questions was reduced from 41 to 27. An internal analysis and reweighting of many questions was the most significant alteration.

We have used the revised form in one of the largest personal finance companies in connection with a standardized selection procedure. The test was administered to 201 male applicants for positions and to 141 branch office managers. The position as branch office manager in the company is one which requires a minimum of three years' successful contact and investigation work within the organization.

Table 1 shows the distribution of the scores of these applicants and managers. Applicants have been grouped according to their previous occupations. No job classification was made of individuals who had less than six months' experience. These norms may be compared with those presented by R. O. Beckman. The range, median, and mean for these groups are considerably different from those presented by Beckman although approximately the same number of cases were studied.

The distribution of applicants' scores does not cover the entire range suggested by the author. Our distribution curve is decidedly skewed toward

[1] R. O. Beckman. Ascendance-Submission Test-Revised, *The Personnel Journal*, 1933, 11: 387–392.

[2] G. W. and F. H. Allport. A Test for Ascendance-Submission, *Journal of Abnormal and Social Psychology*, 1928, 23: no. 2.

TABLE 1

Distribution of scores by occupation (342 cases)

GROUP	N	RANGE		MEDIAN	MEAN
		−	+		
Applicants for positions	201	26	44	9.5	10.37
General Salesmen*	70	26	18	4.5	3.08
Jr. Executives	22	9	44	15.0	12.40
Sales Clerks	21	12	33	5.0	6.33
Clerical workers	33	16	42	13.0	11.54
Branch Office Managers	141	22	35	5.3	5.38
Total Distribution	342	26	44	6.8	8.29

* More than 6 months at these positions.

TABLE 2

Comparative norms on A-S Reaction Test revised for business use

DECILE	RANGE OF SCORES			
	201 applicants		Beckman's norms	
10	−26.0	−6.2	−51	−16
9	−6.1	−2.2	−15	−10
8	−2.1	+3.0	−9	−6
7	3.1	6.0	−5	−2
6	6.0	9.5	−1	+1
5	9.6	13.4	2	4
4	13.5	17.3	5	8
3	17.4	21.0	9	14
2	21.1	26.6	15	20
1	26.7	44.0	21	49
Median..	9.5		1	
Mean...	10.37		1.4	

TABLE 3

Frequency distribution of A-S Reaction Test scores (201 unselected applicants for positions)

SCORES	*f*	ACCUM. *f*
−26 to −23	2	2
−23 to −20	1	3
−20 to −17	0	3
−17 to −14	3	6
−14 to −11	3	9
−11 to −8	5	14
−8 to −5	5	19
−5 to −2	17	36
−2 to +1	10	46
1 to 4	14	60
4 to 7	20	80
7 to 10	17	97
10 to 13	15	112
13 to 16	17	129
16 to 19	16	145
19 to 22	15	160
22 to 25	10	170
25 to 28	12	182
28 to 31	6	188
31 to 34	3	191
34 to 37	5	196
37 to 40	2	198
40 to 43	2	200
43 to 46	1	201

the positive end of the scale. The established mean for an unselected group is plus 1, and the median is 1.4. The mean and median for our group of unselected applicants is more than 9 points higher.

The distribution of scores of applicants as presented in table 2 suggests that the test lacks the capacity to furnish a satisfactory curve, throwing into relief the individual differences among subjects. There is no strong modal class interval, the curve being quite flat between plus 18 and plus 4.

The correlation ratio (eta) between

the Otis Test of Mental Ability, Higher Examination (Form A), and the revised A-S test was found to be .30 ± .015. (339 cases); variation taking place in the same direction from their respective means. The unreliability of the difference between eta and r^2 indicates that the relation is decidedly non-linear. The size of the correlation ratio suggests either that there is a slight overlapping in the abilities measured by these two tests, or that more intelligent applicants are better able to figure out which answers to give in order to increase the likelihood of employment.

In the light of these findings it is suggested that before the revised form of the Allport Ascendent-Submission test is adopted as a diagnostic part of an employment procedure, it should be subjected to further experimentation.

A New Scale for Gauging Occupational Rank

By R. O. Beckman, *Farm Credit Administration, Washington, D.C.*

OCCUPATIONS may be classified or grouped on any one of several bases, depending upon the purpose or objective sought. The type of classification most frequently used is one for purposes of personnel administration and the establishment of compensation plans; here jobs are analyzed and positions involving similar duties and qualification requirements are brought together into classes and groups. The Federal Census classification on the other hand is largely a broad industrial one and groups together the occupations found in ten broad fields, such as agriculture, trade, and manufacturing and mechanical industries.

A specialized kind of classification which has possible applications in studies of employment trends, in sociological research, and in vocational guidance may also be devised to gauge the relative rank or level and prestige of a given occupation in the present-day social economy. The construction of what might be termed a "vertical" classification of this kind—in essence a socio-economic scale—is in itself not very difficult. It is, however, usually an easy matter to criticize such a classification since it is generally predicated upon subjective opinion rather than objective evidence. This will be appreciated by anyone who has tried, in a wage setting program, to compare the relative values to society of widely different occupations. How much, for example, is a draftsman worth as compared to an undertaker, a bookkeeper to a hoisting engineer? In popular conception, which job carries more prestige—that of a street car conductor or a bank guard?

In evaluating the work of the Adjustment Service, a project which in 1933–34 counselled some 13,000 unemployed adult residents of greater New York, it was felt desirable to group the occupations of these persons by means of a simple scale or ranking ing device. Their occupations had already been allocated in terms of the Census classification (modified to some extent to meet the special needs of the Adjustment Service) but this classification was too complex to permit a ready understanding of how they were distributed according to status or level. A new socio-economic scale of occupations would perhaps give a better and simpler picture of the clients served and an opportunity to gauge the extent to which they were redirected vocationally into higher or lower fields.

A cursory inquiry concerning available occupational scales disclosed none that seemed either appropriate or to have demonstrated its statistical validity. They were all designed for other uses. No critical examination was

made of existing scales, however, until after the scale here described had been applied in coding the occupations of Adjustment Service clients. What seemed to be needed under the circumstances was some grouping which would readily indicate the rank of any occupation on the basis of the *intelligence, capacity or skill, education* and *training required* for its pursuit. Such a scale should also reflect the socio-economic prestige attached to a given occupation, unless prestige be adjudged solely on the basis of earnings. To base the classification upon income would result in placing the stock promoter far above the clergyman or teacher, for example.

A new occupational scale was therefore devised by the writer in consultation with Adjustment Service executives and Dr. Henry C. Link. This scale grouped the important titles of the Census classification into five ranks or grades. The three higher grades were further broken down into functional subdivisions, of value in making a more detailed analysis of the clients counselled. The plan as finally revised is illustrated in the following tabulation:

Grade 1—Unskilled Manual Occupations
Grade 2—Semi-Skilled Occupations
Grade 3—(a) Skilled Manual Occupations
(b) Skilled White Collar Occupations
Grade 4—(a) Sub-Professional Occupations
(b) Business Occupations
(c) Minor Supervisory Occupations
Grade 5—(a) Professional (Linguistic) Occupations
(b) Professional (Scientific) Occupations
(c) Managerial and Executive Occupations

In so far as they were represented among the clients of the Adjustment Service, all the more important classifications used in the Census reports were assigned to one of the five ranks. Among other data, the modal (past) occupational rank of 5,082 clients and the rank of the occupation recommended in the course of the counselling program were then entered on tabulation punch cards. A picture of the occupations included within each grade may be gained by referring to the table at the end of this article; this shows the grade allocation of all important occupational classes listed in the Federal Census rather than those found only among Adjustment Service clients.

The distribution by occupational grades of the working population of the United States (all gainful workers ten years old and over) in 1920 and in 1930 is shown in table 1. This confirms the occupational trends described by Dr. Walter V. Bingham in the magazine *Occupations* (February, 1934 number), but shows a proportionate decrease in the lower grade occupations and an increase in the higher grade vocations in terms of a different classification scheme. The largest decrease appears in the ranks of skilled manual workers, the largest increase among white collar workers, both included in Grade 3 of the scale.

The figures in table 1 are necessarily approximate because of the difficulty of allocating the titles used in the Census classification. More or less arbitrary decisions necessarily had to be made. Thus, "Owners and Managers" of truck, transfer, and cab companies were placed in Grade 4 (b), while "Managers and Officials" of the

same enterprises were placed in Grade 5 (c). Such a distinction is indicated by reference to the "Classified Index of Occupations," a handbook used by Census enumerators which includes what appear to be lower grade jobs in the first named classification and managers, presidents, and superintendents in the second group. Supporting evidence warranting such an allocation may be found in the fact that there are three times as many workers in the first group as in the second. "Operatives" in manufacturing and mechanical industries were placed in Grade 2 (Semi-Skilled) and 3 (a) (Skilled Manual) for the most part, depending upon the degree of skill required of workers in general in the particular industry. Thus workers in food and candy factories were classed as "semi-skilled" while printers and bookbinders were classed as "skilled." There are, of course, some low grade jobs included in the latter group just as there are machine setters and other experts included in the former. Another factor restricting a precise comparison of the number of workers in 1920 and 1930 is the change made by the Census Bureau in its classification. In 1930, for example, more than a million building construction laborers appear for the first time in a distinct classification and no comparable figures are available for 1920. However, it is probable that the large numbers involved tend to minimize the probable errors of allocation and that table 1 may be regarded as giving a fair picture of the gradation of the American working population.

TABLE 1

Number and per cent of workers gainfully employed in 1920 and 1930, by occupational grades

GRADE	NUMBER EMPLOYED 1920	PER CENT 1920	NUMBER EMPLOYED 1930	PER CENT 1930	VARIATION IN PER CENTS
1. Unskilled Manual	10,327,280	24.9	11,949,885	24.4	−.5
2. Semi-Skilled	6,514,296	15.6	7,184,175	14.7	−.9
3A. Skilled Manual	13,879,775	33.3	14,523,739	29.3	−4.0
3B. Skilled White-Collar	4,978,862	11.9	6,905,194	14.0	+2.1
Total, Grade 3	18,858,637	45.2	21,428,933	43.3	−1.9
4A. Sub-professional	418,250	1.1	673,644	1.3	+.2
4B. Business	2,221,513	5.4	3,287,103	6.7	+1.3
4C. Minor Supervisory	657,060	1.5	689,936	1.3	−.2
Total, Grade 4	3,296,823	8.0	4,650,683	10.3	+2.3
5A. Professional (Linguistic)	1,231,409	2.9	1,724,248	3.5	+.6
5B. Professional (Scientific)	579,162	1.5	840,530	1.8	+.3
5C. Managerial and Executive	806,641	1.9	1,051,466	2.1	+.2
Total, Grade 5	2,617,212	6.3	3,616,244	7.4	+1.1
Grand Total	41,614,248	100	48,829,920	100	+17.3

The distribution of occupations of clients of the Adjustment Service is

entirely different from that of the country as a whole, since this project was designed to serve mainly the white collar class in the metropolis. Table 2 gives comparison of the two distributions.

After the Census classifications had been allocated in terms of the new occupational scale, an effort was made to reconcile the figures in table 1 with those published by Dr. Florence L. Goodenough[1] in connection with a scale used in Minnesota in classifying the parents of school children. There was found to be some evidence that certain groups were comparable in

TABLE 2

Occupational distribution of Adjustment Service clients compared with 1930 census distribution

	GRADES AND PER CENTS				
	1	2	3	4	5
Entire Working Population.....	24.4	14.7	43.3	10.3	7.4
Adjustment Service Clients.....	4.3	1.7	36.7	28.1	29.2

size under the two classifications. Others could not be reconciled, however. The Minnesota classification of "Clerical, Skilled Trades and Retail Business," for example, was reported as comprising 14.42 per cent of the 1920 working population as compared to 50.6 per cent of workers in the occupational scale here discussed.

An examination of the occupational scale used in the National Survey of Secondary Education[2] was also made after the present scale had been applied. It was found that the five occupational levels devised by Dr. Kefauver in that survey corresponded very closely with the grades which had been set up for the Adjustment Service. However, the Census classification cannot be directly translated into the grades of the Kefauver scale and the latter is open to question in its allocation of many occupations to their appropriate grades. For example, the grouping of such skilled occupations as bakers, hotel chefs, clothing cutters, merchant tailors and auctioneers in a "Semi-skilled Group" with such subordinate vocations as delivery men, yardmen, ticket collectors, peddlers and junkmen suggests a lack of familiarity with actual work requirements and earnings in the employment field. The findings of the educational survey in question in so far as the socio-economic status of high school pupils is concerned might well have been far more conclusive had such seeming errors in job classification been avoided. For the purposes desired, the earlier scale devised by Dr. George S. Counts and also used in the National Survey, appeared to have produced better results.

The new occupational scale here described had been set up on a purely presumptive basis; it represented opinions without reference to considerations of validity. Not until the occupations of 5,000 Adjustment Serv-

[1] The Minnesota scale is discussed in the Journal of Genetic Psychology, Vol. 41, No. 2 and in "Experimental Child Study," Century Co., New York, 1931.

[2] Contained in *The Secondary-School Population*, Monograph No. 4, National Survey of Secondary Education, by Kefauver, Noel, and Drake. Office of Commissioner of Education, Washington, 1932.

ice Clients had been graded and the grades compared statistically with other data pertaining to the clients in question was it known whether the scale actually gauged what it was designed to gauge. To what extent did it really classify occupations on the basis of the intelligence, education and capacity required for their performance?

When the highest year of schooling completed was compared with the grades of the past and recommended occupations, in the case of the 5,000 clients for whom these data were coded, it was found that the length of education correlated directly with the occupational grades: the higher the grade, the longer the educational training. This situation is summarized in table 3.

TABLE 3

Average years of schooling in relation to occupational rank

	OCCUPATIONAL GRADE				
	1	2	3	4	5
	yr.	*yr.*	*yr.*	*yr.*	*yr.*
Modal (past) Occupation	9.6	9.4	10.3	11.4	13.2
Recommended Occupation	8.9	9.1	10.6	11.3	13.1

The education of clients in relation to recommended occupations is more consistent than that of their past occupations, it will be noticed, and may suggest the propriety of the counselling service rendered. The average schooling of persons who had been employed in Grade 1 is somewhat greater than those employed in Grade 2. The relatively good educational showing of persons in the two lower ranks is due to the fact that the Adjustment Service served a rather highly selected group and also to the economic depression, which threw many young persons recently out of school into menial work since there was no other work to be had. What appears to be too short an educational experience for professional workers and executives classed in Grade 5, is attributable to the combination of the two groups at the same socio-economic level and the inclusion in the Adjustment Service group of a considerable number of persons classed in such professions as teachers, musicians and music teachers, writers and reporters, social workers and others who did not need four years of formal college training at the time they received their education in order to qualify under the professional classification.

TABLE 4

Occupational rank in relation to intelligence

GRADE	MEDIAN SCORE	
	Modal occupation	Recommended occupation
1	.55	−.08
2	−.26	−.18
3	.44	.40
4	.80	.81
5	1.08	1.19

A similar stepping up is seen when occupational ranks were compared with median sigma scores on the Pressey Senior Classification Test (a mental alertness test). The median sigma score for this test is approximately zero. The sigma scores are in terms of norms developed from a sampling of the adult population tested in the Minnesota employment stabili-

zation experiment. The comparison is given in table 4.

Test scores in Grade 1 will be seen to be higher than might be expected because of the young workers forced into low grade work during the depression. When the median scores of the grade subdivisions are examined they show similar trends. The median score for those men for whom skilled here, as with the Pressey scores and the length of schooling, is in the unskilled manual group. This is shown in table 5.

TABLE 5

Modal occupational rank and vocabulary test scores

GRADE	MEDIAN SCORE
1	100.7
2	89.5
3	106.9
4	116.9
5	123.0

In evaluating the nature of the vocational guidance given to Adjustment Service clients, a comparison may be made of the extent of occupational redirection by occupational grades. Tables showing the percentage of clients in each grade, according to their past or modal occupational rank, as redistributed on the basis of different occupational ranks suggested, are shown in table 6. Separate tabulations appear for men and for women.

By reference to the table it will be seen, by way of example, that 38 per cent of the men who had been employed in Grade 1 occupations were advised

TABLE 6

Per cent of redirection by occupational rank

MEN RECOMMENDED GRADE					MODAL (PAST) OCCUPATIONAL GRADE	WOMEN RECOMMENDED GRADE				
1	2	3	4	5		1	2	3	4	5
19.1	0	38.0	14.7	28.3	1	32.9	0	23.3	20.5	23.3
2.2	29.7	36.3	9.9	22.0	2	10.5	42.1	26.3	5.3	15.8
1.4	0.7	55.7	14.5	27.7	3	2.8	0.5	69.4	12.8	14.6
0.3	0.1	13.4	57.1	29.1	4	2.5	0	17.4	63.5	16.6
0.6	0.5	8.1	10.5	80.3	5	1.6	0.2	13.2	10.2	74.8

manual work was suggested, for example, is .3, that of skilled white collar workers, .7. The scores for the men for whom Grade 5 jobs were suggested averaged as follows: Managerial and executive, 1.1; professional (scientific) 1.3; and professional (linguistic) 1.35.

As in the case of the intelligence test scores, the tabulation of past occupational rank with O'Connor Vocabulary Test scores shows a higher score for each succeeding rank. The exception to enter Grade 3 occupations, etc. For the most part, large numbers of clients in each of the lower groups were urged to improve their circumstances by seeking work of a higher level. In general, the largest per cent in each grade was advised to continue in work of the same general level. The tables shown above appear to suggest reasonable consistency on the part of the occupational scale and of the vocational guidance given.

A comparison of the occupational grades with length of unemployment was also made but showed no trends of significance. The average length of unemployment for the five grades ranged from 5.7 months among the unskilled to 11.3 months among managers and executives and 11.8 months among skilled manual workers.

A vocational scale of the type here described would be of value in occupational analyses of various kinds. Its validity can apparently be demonstrated statistically in a manner which has been difficult or impossible in the case of earlier scales of a similar nature. In addition to its possible usefulness in statistical evaluation of the nature of vocational guidance rendered, the following applications might perhaps be suggested: in revealing vocational trends as reported in Census reports; in understanding the socio-economic distribution of wage earners in connection with community surveys; in measuring the extent of the democratization of secondary and higher education; in analyzing unemployment statistics in relation to planning welfare activities and budgeting relief funds; in setting up hypothetical test norms representative of a cross section of the adult working population; in classifying and interpreting responses to attitude scales or questionnaires used in market or sociological surveys; and in making comparisons of earnings in wage studies.

APPENDIX

REPRESENTATIVE TYPES OF OCCUPATIONS IN EACH GRADE OF THE OCCUPATIONAL SCALE

(In general, only those census classifications in which 25,000 or more persons were employed in 1930 are included; a few occupations of lesser occurrence are shown for purposes of illustration. The order follows that of the United States Census statistics of occupations.)

Grade 1—Unskilled Manual Occupations

Farm laborers
Lumbermen, raftsmen and woodchoppers
Laborers (construction, manufacturing, road, warehouse, etc.)
Longshoremen and stevedores
Sailors and deckhands
Garage, trucking and stable hands
Deliverymen
Newsboys
Soldiers, sailors, and marines
Attendants (pool rooms, bowling alleys, golf clubs, etc.)
Charwomen, maids, and cleaners
Janitors and sextons
Porters
Messengers and office boys and girls

Grade 2—Semi-Skilled Occupations

Fishermen and oystermen
Mine operatives
Filers, grinders, buffers
Stationary firemen
Furnace and smelter men
Oilers
Operatives in
  Chemical and allied industries
  Brick, tile, lime and cement works
  Foods, beverages, and tobacco
  Blast furnaces, rolling mills, iron and steel factories
  Tin and enamel ware
  Leather industries
  Planning, woodworking and paper mills
  Cotton and other textile mills
Draymen and teamsters
Baggagemen
Street railroad and bus conductors
Switchmen, flagmen, and yardmen
Truck drivers and chauffeurs
Firefighters
Guards, watchmen, and doorkeepers
Policemen
Housekeepers and stewards
Laundry workers
Waiters

Grade 3A—Skilled Manual Occupations

Farm owners and tenants
Apprentices to building and other skilled trades
Bakers
Blacksmiths, forgemen, boiler makers
Building trades mechanics
Printing and publishing trades mechanics
Dressmakers and seamstresses
Electricians
Engineers, stationary and locomotive
Jewelry workers and watchmakers
Machinists, millwrights, and toolmakers
Transportation mechanics
Milliners
Moulders, founders and casters
Painters and glaziers
Paper hangers
Pattern and model makers
Shoemakers and cobblers
Tailors and tailoresses
Operatives in
  Glass and pottery
  Clothing industries
  Automobile factories
  Furniture, piano and organ factories
  Electric light and power plants and supply factories
Railroad firemen and brakemen
Motormen
Barbers, hairdressers and manicurists
Practical nurses and midwives
Cooks (hotels, restaurants, etc.)

Grade 3B—Skilled White-Collar Occupations

Freight and express agents
Mail clerks and carriers
Radio, telegraph and telephone operators
Clerks in stores
Inspectors, gaugers and samplers
Canvassers, demonstrators and sales persons in stores
Marshals, sheriffs, detectives, etc.
Dentists' and physicians' assistants
Boarding and lodging housekeepers
Collectors
Bookkeepers and cashiers
Office clerks
Stenographers and typists

Grade 4A—Sub-professional Occupations

Opticians
Undertakers
Actors and showmen
Designers, draftsmen and apprentices, and inventors
Photographers
Trained nurses
Apprentices to various professional persons
Healers (not elsewhere classified)
Religious workers
Technicians and laboratory assistants

Grade 4B—Business Occupations

Owners and proprietors of garages, truck and cab companies
Conductors (steam railroads)
Postmasters
Advertising agents
Commercial brokers and commission men
Loan brokers and pawnbrokers
Commercial travellers
Decorators, drapers, and window dressers
Insurance agents
Proprietors of employment agencies, grain elevators, warehouses, etc.
Real estate agents
Retail dealers
Sales agents and auctioneers
Wholesalers, importers, exporters
Billiard room, dance hall, theater and amusement resort keepers, etc.
Hotel keepers and managers
Laundry owners, managers, and officials
Restaurant and lunchroom keepers
Credit men and purchasing agents
Floorwalkers and foremen in stores

Grade 4C—Minor Supervisory Occupations

Farm managers and foremen
Mine foremen and overseers
Manufacturing foremen and overseers
Captains, masters, mates, pilots
Foremen, overseers and inspectors, transportation and communications
Foremen, miscellaneous trades
Keepers of charitable and penal institutions
Cemetery keepers

Grade 5A—Professional Occupations (Linguistic)

Authors, editors and reporters
Clergymen
College presidents and professors
Lawyers, judges, and justices

Musicians and teachers of music
Teachers
Librarians
Social and welfare workers and related occupations

Grade 5B—Professional Occupations (Scientific)

Architects
Artists, sculptors and teachers of art
Chemists, assayers, and metallurgists
Dentists
Physicians, surgeons, osteopaths
Technical engineers (civil, electrical, etc.)
Veterinary surgeons
County agents, farm demonstrators, etc.
Accountants, auditors and actuaries

Grade 5C—Managerial and Executive Occupations

Owners and managers of log and timber camps
Mine operators, managers and officials
Manufacturing managers and officials, and manufacturers
Garage, transfer and cab company managers and officials
Railroad officials and superintendents
Other transportation proprietors and managers
Bankers and bank officials
Stock brokers and promotors
Managers and officials, insurance companies
Managers and officials, real estate companies
Government officials and inspectors

News Notes

INDUSTRIAL RESEARCH AT THE WHARTON SCHOOL

For many years one of the country's outstanding research centers, the Industrial Research Department of the Wharton School of Finance and Commerce has under way a number of studies of particular interest. Leading the list is C. C. Balderston's study of industrial relations plans in twenty-five leading companies. His report will present the plans in case form, draw inferences from these, set up a standard for judging industrial relations plans, and give a brief description and analysis of each of the sixteen industries in which the companies are located. This report will be published soon. Gladys L. Palmer is continuing her analyses of the labor supply, including the relative overcrowding in different occupations, and characteristics of the unemployed which affect their employability. Emmett H. Welch is directing an analysis of the data of unemployment censuses, while Hiram S. Davis is developing a comprehensive index of employment, payroll, and man-hours for the wool textile industry.

SALARY STANDARDIZATION

Metropolitan Life Insurance Company's Policyholders Service Bureau has published a survey of practices in *Salary Standardization and Administration*. Current methods of job analysis, job evaluation and grading, salary scheduling, and related topics are described. Sample schedules, forms, and job classifications are presented. Copies of this report can be secured from the Bureau, 1 Madison Avenue, New York.

FIRST YEAR OF THE U. S. E. S.

During the first year of its reorganized existence, the United States Employment Service registered and classified 12,634,974 persons and placed 6,951,523 in private or Government jobs, according to a report of the Service ("Twelve and a Half Million Registered for Work." Washington: Government Printing Office, 1934). Of the placements, 4,123,925 were on civil works, 1,403,358 were on public works and public-road projects, 1,305,873 were in private employment of all kinds, and 118,367 were in governmental service, either local, State, or Federal. A month-by-month record of placements with private business concerns reveals progressive increase in the effectiveness of the Service. The report includes a description of the fundamentally important program of standardization of employment records.

NEW YORK ADULT EDUCATION COUNCIL

The New York Adult Education Council now publishes a semi-monthly *Bulletin* as a means of bringing to the attention of its members the many courses, lectures, exhibitions, and other educational facilities available to adults.

LABOR LEGISLATION

The Proceedings of the National Conference for Labor Legislation, held last spring, have just been published as Bulletin No. 583 of the U. S. Bureau of Labor Statistics. Obtainable from Superintendent of Documents, Washington, D. C., at 10 cents a copy.

NATIONAL CONFERENCE ON ECONOMIC SECURITY

Unemployment insurance, child welfare, provision of employment, medical care, and old age security were the major topics of discussion at the National Conference on Economic Security, held in Washington, November 14. The conference was arranged by the Committee on Economic Security.

Except for lunch and dinner meetings, all sessions took the form of round table conferences. At the dinner Frances Perkins, Secretary of Labor, spoke on "The Task that Lies Ahead."

A. F. OF L. CONVENTION

The American Federation of Labor's San Francisco convention was perhaps the most significant in a number of years, chiefly because of the action taken to stimulate the organization of industrial unions, as distinguished from craft unions. This reversal of traditional policy not only gives impetus to unionization in the steel, aluminum, cement, automobile, and other mass production industries, but also will probably have a far-reaching effect on the future character of the American labor movement. Other important actions were the enlargement of the Federation's executive council and the resolution to drive for the six-hour day and five-day week.

Paid-up membership was reported to have reached the 1929 level of over 2,900,000, more than a fourth of these having been enlisted during the preceding year. Total union membership, including those excused from payment of dues because of unemployment, sickness, etc., was placed at 5,650,000.

CALENDAR

December 5 to 8
Annual Convention, American Vocational Association. Pittsburgh.

December 6
American Society of Mechanical Engineers, Management Section. New York.

December 6 and 7
Annual Meeting, Federated Management Societies (Taylor Society and Society of Industrial Engineers). New York.

December 26 to 29
Twenty-eighth Annual Meeting, American Association for Labor Legislation. Chicago.

January 24 and 25
Thirteenth Annual Conference, Personnel Research Federation. New York.

February 6 to 8
Personnel Conference, American Management Association. Pittsburgh.

February 20 to 23
Meetings of National Vocational Guidance Association, American College Personnel Association, Personnel Research Federation, National Association of Deans of Women, National Association of Principals of Schools for Girls, and other organizations interested in guidance and student personnel. Atlantic City.

Personnel Books

EDITED BY O. MILTON HALL

THE SCIENCE OF WORK

By Morris S. Viteles. New York: Norton, 1934, 453 pp., $4.00

Reviewed by ALLEN B. GATES, *Eastman Kodak Company*

At last we have a discussion of the application of psychology to business, written, by a recognized leader in the field, in a style which can readily be understood by business executives. Unfortunately in the past most worthwhile books on this subject and most attempts by psychologists to present the subject from the platform have fallen on unfertile soil as far as business executives are concerned. The reasons for this are many but chief among them is the fact that for the average business executive the style of presentation in most cases is stilted and involved. Often, the writer or lecturer has devoted so much of his attention to extolling the importance of psychology as a science and the impossibility of the average person untrained in its lore to understand or apply it, that he has had little space or time left to convince the reader or listener of its real value and of the real possibilities of its application in business.

In his treatment of "The Science of Work," Dr. Viteles has reversed this approach to the subject. He has prepared the reader for his presentation by first outlining the need for an understanding, on the part of industrial executives, of the human factors in business. He has then pointed out where and how the application of psychological principles and methods can be used to bring about this understanding and to solve the many perplexing problems in this field.

In his first chapter, "Work Through The Ages," Dr. Viteles has effectually punctured the illusive bubble of "The Good Old Days" prior to the introduction of the machine. He shows that even in the "Golden Era" of the middle ages when handcraft was exalted to a high degree, the lot of the average person was far less acceptable than that of the same average person in our modern industrial civilization.

In his second chapter, "Work With Machines," he shows that the industrial revolution brought about by the introduction of mechanization, the factory, and new methods led to many changes in the methods of work and in working conditions. He shows that selfishness of investors and those in a position to take advantage of labor in its new environment led to many practices which for a long time were detrimental to the welfare of the average worker. He then points out that progressive managers aided by social legislation have been gradually correcting these conditions. Today the average man in a progressive industrial country and in a progressive industrial organization occupies an economic and social position far above that enjoyed by his predecessors in any previous age or civilization.

In spite of this great improvement brought about by more effective production and working methods, the author points out that there are many conditions which can be improved. In the succeeding chapters he outlines the psychological problems involved in the selection, placement, training, and supervision of the workers as well as in the development of safe and effective

working methods and conditions. He completes his treatment of "The Science of Work" with a chapter on "Working Together" in which he discusses the attitude of Management which is essential to cooperation throughout an organization and some of the measures essential to carrying that attitude into effect.

Personnel workers and industrial engineers will find much in this book that will be helpful. Upper executives, department heads, and all others who are in any way responsible for the accomplishment and well-being of either physical or mental workers can find much to help them understand people and to recognize and correct or forestall possible difficulties before they become serious.

DYNAMITE

THE STORY OF CLASS VIOLENCE IN AMERICA

By Louis Adamic. Revised Edition: New York: Viking Press, 1934, 495 pp., $2.50

Reviewed by ORDWAY TEAD, *Harper and Brothers*

Here is a profoundly disturbing book. Its subject matter—the data it has under the microscope—is the uses of violence in the history of American labor's efforts to raise its standard and status in life. The fact that all these data cannot be experimented with or correlated by statistical methods in a quiet laboratory, does not lessen its importance. Nor are the problems it raises any the less related to the conduct of personnel work than scientific studies of fatigue or intelligence in industry.

In short, the book cannot be ignored in a thoughtful approach to management problems. Here is a whole body of data that is scientific raw material. For it bears on such problems as morale-building, the clarifying of management purposes and objectives, the uses of group organizations as agents of negotiation, and the reasons for racketeering in the world of legitimate business.

Why does violence supervene in the relations of employer and employee? Who uses violence and under what conditions? To what extent have the traditional labor unions resorted to violence? Is "labor racketeering" on the increase and does it find any parallel in the activities of employers? Does violence permanently gain ends that are obtainable in no other way? Or is it an evidence of the philosophy that the end justifies the means? If there are permanent gains, what is their nature?

These are profound, inescapable questions. They probe to the heart of the crucial issues of today—those having to do with the balance of political and economic power. It is less necessary that we have at the tip of our tongues a glib answer to them, than that we acknowledge them as questions the dispassionate study of which can no longer be ignored in that industrial sociology from which in part personnel work derives its *rationale*.

Moreover, this volume does not stand alone as a signpost to unsolved issues. It stems from the source of spiritual and economic disturbance which has recently given us such widely different studies as George Soule's "The Coming American Revolution," John Strachey's "The Coming Struggle for Power," Mary Van Kleeck's "Miners and Management," Reinhold Niebuhr's "Moral Man and Immoral Society," Richard B. Gregg's "The Power of Non-Violence," and Lillian Symes' "Rebel America."

Under one guise or another all of these authors are posing the question: Where does the use of violence ever get us in the melioration of political, social and economic conditions?

The problem as a moral one is not new. On one side stand, for example, the followers of Gandhi, the Quakers, the extreme pacifists. And on the other side the moral prophets take a stand all the way from favoring forcible resistance to aggressive or destructive acts to a glorying in the use of

dynamite to destroy those who block the way to "progress."

The volume here under review does not purport to be a philosophical inquiry into this moral question. It is primarily a record—and in its cumulative effect a sobering one—of when and how blood has been spilled in labor controversies in America.

In a sense the text of the book is the quotation it gives from a French sociologist: "A man is not born an enemy of society. It is the circumstances which give him that title, such as poverty or misfortune. He does not disturb the general tranquility until he has lost his own. He ceases to be a good citizen only when the name becomes meaningless in his case." And Mr. Adamic's own general conclusion is perhaps best suggested by his sentence, "Labor racketeering, as it has begun to develop in the United States, is a natural and even necessary product of powerful and chaotic social and economic forces that have been operating in this country *uncontrolled* since the beginning of the Industrial Revolution." (Italics his.)

Mr. Adamic, it will be seen from this, presents a complementary and confirming view to that elaborated by Lincoln Steffins in his "Autobiography," wherein he accounts for much political corruption by showing it to be the result of the exercise of private economic power to gain ends of special economic privilege.

Sabotage is discussed, as a paler form of violence. And the conclusions reached square with those of the more scholarly study of Stanley B. Mathewson, "Restriction of Output Among Unorganized Workers." No executive who seriously asks himself what he can do to interest his workers in production as a creative outlet can ignore studies of this type, and still expect to arrive at a practically effective answer.

It may be true, as Miss Van Kleeck says in her book above mentioned, that "how socialization will come, is not within the power of a research worker to forecast." It is no doubt true, as Mr. Soule says, that processes of profound social change may be "by a sudden, violent overturn, or by a longer process of trial and error. . . . Doubtless the process will vary in different parts of the world."

The whole problem of the ultimate efficacy of violence does, nevertheless, need dispassionate examination and scientific analysis. It is not merely a matter of temperamental (or glandular!) differences between the meek and the "go-getters." If the meek are to inherit the earth, what is the evidence for it? If the fighters and protagonists of violence are the ones who survive and prosper, what is the evidence?

In a scientific journal such as this, it is at least proper, not to say, highly relevant, to pose questions of this sort—raised as they are by Mr. Adamic's book. For he is no doubt entirely correct in his surmises that the story he is telling "is still developing and developing rapidly." The record shows, in support of his view, that to date this year 46 manual workers have been shot dead in disturbances incident to industrial strikes.

CAREERS FOR WOMEN

By Catherine Filene. Boston: Houghton Mifflin, 1934, 620 pp., $3.00

Reviewed by EMILY BURR, *Vocational Adjustment Bureau for Girls, New York*

In a panoramic presentation of the careers of 158 women who have achieved success in their chosen field, Miss Filene, acting as editor, has arranged in systematic fashion the graphic story of each woman contributor. There are inspiring articles by such experts—to name only a few—as Rachel Crothers, playwright; Lillian Gilbreth, industrial engineer; Blair Niles, explorer; Mary Anderson, director of the Women's Bureau, U. S. Department of Labor; Augusta Bronner, clinical psychologist; and Frances Perkins, Secretary of Labor.

Among the occupations described are agriculture, arts, business, dramatics, education, engineering, government, health activities, home economics, law, library work, literary work, music, public relations, radio, scientific work, secretarial work, social work and transportation.

Each contributor, following a set pattern, has suggested the training required for her particular type of work. To this is added, under captions that readily attract the eye, a brief statement of the opportunities for employment likely to be found, the salary range and the chances for advancement that may be expected in each line of work as well as the existing age limits. Bibliographies enhance the value of the volume as a book of reference.

Other books in which work for women has been the theme have presented only a sketchy and superficial review of relatively few occupations; but this book, although by no means exhaustive, offers an exceptional amount of information in readable form.

The reader is frequently reminded that the only road to skill is application, patient practice, courage and the ability to get along with one's fellows. Into many of the articles contributors have injected something of their own philosophy of life revealing glimpses of what has made their work worthwhile, stimulating and interesting.

These career stories are challenging as well as instructive and the book might well be placed on the shelves of high school and college reading rooms. It would be sure to prove an excellent supplement to the advice of the vocational counselor.

LEADERSHIP

LEADERSHIP AMONG ADOLESCENT BOYS. By E. De Alton Partridge. New York: Bureau of Publications, Teachers College, Columbia University, 1934, 109 pp., $1.50

LEADERSHIP IN GROUP WORK. By Henry M. Busch. New York: Association Press, 1934, 305 pp., $2.25

Reviewed by ORDWAY TEAD, *Harper and Brothers*

Study of leadership requires, says the first author, the development of a valid technique of identifying leaders, a study of the characteristics of leaders compared with those of the led, and a study of leaders in action to determine how influence is exercised. And he performs a useful service in collating the results of researches in these directions no less than in setting forth his own studies of boy leaders in a boys' camp and among boy scouts.

The conclusions reached are illuminating and in general in line with the common sense observations on the several points which most students of leadership would be likely to offer. Outstanding leaders excelled their fellows in every characteristic measured; they seemed to be all-around superior individuals,—superior in intelligence, dependability, appearance, athletic ability. Even the quality of voice tended to identify the leader. Yet there was no typical leader, differences in total personality, appearance and intelligence being great.

The technician will be interested in the methodology of study employed, which is undoubtedly capable of application to other fields where the same problems could profitably be analyzed, if our understanding of the nature and development of leadership is to be advanced.

The applications of the author's conclusions to education seem significant, as pointing to the need within the schools of more "ample opportunity for group experience to operate and for individuals who have qualities of potential leadership to exercise those qualities in a way which will equip them to be of better service to humanity." Also it is fruitfully suggested

that however the gifted child may be specially handled within the formal curriculum, he should have more opportunity of "assuming responsibility and giving leadership to the activities of their fellows."

The bibliography is especially useful.

Professor Busch's study has a different purpose,—to direct the attention of group workers toward basic issues in a way to help their practical efforts at leadership in groups with recreational, civic, and character-building and related objectives.

Naturally, the method of treatment is one which aims to bring to the reader a rapid review of factors of social and educational background and theory, as these affect the techniques of leading. One of the most useful chapters, "Educational Leadership in Action," describes two different types of leader in action and shows how they behaved to get effective results. The following chapters on program making and organization are full of practical suggestions. And the chapter on character education is realistic, constructive and lacking in any aroma of priggishness.

Altogether this is a highly useful book, although for institutional purposes it might well be more inductive with a fuller use of the case method. Here again, the bibliography is widely selected and distinctly helpful.

These books represent a wholesome growth of both awareness and urgency as to the study of leadership, and ways and means of cultivating it and giving it effect. They demonstrate implicity and explicitly that the characteristics which give power to leadership can be significally enhanced by training. They both acknowledge that in a democratic society there is a problem of deliberate training for leadership which has to be more fully faced if the covert dangers of dictatorship in all walks of life are to be withstood.

HOW TO INTERVIEW

By Walter V. Bingham and Bruce V. Moore. Revised edition. New York: Harper, 1934, 308 pp., $3.00

Reviewed by HAROLD B. BERGEN, *Director of Industrial Relations, The Procter and Gamble Company*

It is unnecessary to reaffirm the importance of the interview—the conversation with a purpose—in personnel management, vocational counselling, and other arts drawing upon the psychological and social sciences. It will always be an indispensable tool to vocational counsellors, employment interviewers, industrial relations investigators, market research men, social workers, educators, clinical psychologists and psychiatrists, reporters, and legal investigators. Unfortunately, it has been a relatively inaccurate instrument in comparison with the more precise tools used by the natural sciences.

In 1931, the first edition of *How to Interview* was published. It was a most significant contribution to the development of better techniques of interviewing. It brought together clearly and concisely practically all of the available information on this most important subject, including the experience of many who had engaged in extensive use of the interview for various purposes. And now we have a second edition, the revisions having resulted mainly from interviews which the authors have had with the users of the first edition. The result has been another significant addition to the available literature on the subject.

One of the most valuable changes in the new edition is the amplification of the list of suggestions to interviewers which appears in the chapter, "Learning How to Interview." Here are presented seventy-five fundamental points which all interviewers should master; the first fifteen are applicable to practically all interviews, the

next thirty-eight relate to fact-finding interviews, and the remainder deal with the interview in education and guidance. Another important change is the addition of descriptions of the interview from the point of view of the applicant for employment and of the vocational counselling interview.

The excellent chapters on the interview in employment and in industrial relations required little revision. The same was true of those dealing with the interview in market research, journalism, and law. New material, however, has been added to the sections relating to the interview in social case work, in education, and in the mental clinic. Another important chapter presents the findings from a number of researches on the interview and related techniques. The text is concluded with a chapter which brings together a few general conclusions regarding the uses, techniques, and dependability of the interview. There are two appendices; one reproduces "Aids to the Vocational Interview," a pamphlet published by the Psychological Corporation, and the other an outline prepared by the National Committee for Mental Hygiene for the psychiatric examination of a child. A carefully compiled bibliography and an index complete the book.

This volume should be part of the personal library of every interviewer and worker in the fields to which it is related. It summarizes for him the best, even if meagre, information available concerning the art which he practices. The personnel manager will find it especially helpful—practically every chapter is related to some phase of his work. This book will prove of interest also to the wide-awake operating executive who, after all, is the real personnel manager, and must use the interview daily as a working tool.

THE SELECTION OF COLOR WORKERS. By W. O'D. Pierce. New York: Pitman, 1934, 134 pp., $2.00.

Many operations in the paint, dyestuffs, paper, and other industries require that the workers have a high degree of the ability to discriminate colors. And thus far no practical industrial substitute has been found for human judgment in this connection. This small book describes a series of experiments out of which were developed practical methods of measuring the ability to discriminate fine shades of color. The work was done under the auspices of the National Institute of Industrial Psychology in London.

The test as finally developed consists of three series of colored disks, one of red, one of yellow, and the third of blue. In each series the disks vary in saturation of color, and the person being tested is required to arrange the members of the series in their order of saturation, placing the lightest disk to the extreme right and the darkest to the extreme left. The test is inexpensive, reliable, valid, and easy to give.

The research did not stop at the development of a fine measure of color discrimination, but went on to demonstrate its practical usefulness in selecting workers for occupations requiring such discrimination.

SOCIAL SECURITY IN THE UNITED STATES, 1934. New York: American Association for Social Security, 1934, 193 pp., $1.75.

This volume is a record of the Seventh National Conference on Social Security, held in April of this year. The many speeches reproduced here may be grouped under the following headings: problems of legislation, old age security and the depression, health insurance, and unemployment insurance. The book contains, in addition, a summary of old age security laws and an analysis of the cost of pensions.

BUILDING PERSONALITY. By A. Gordon Melvin. New York: John Day, 1934, 303, $3.00.

This is not another book on how to improve one's personality, as the title will imply to many. It is more important than that. It is an attempt to realign psychology as the study of human personality.

THE TIDES OF LIFE. By N. G. Hoskins. New York: Norton, 1934, 352 pp., $3.50.

So much attention has been given to the

"glands" by half-baked, sensational writers that it is a source of satisfaction to find a book on endocrinology that is patently sound and reliable, and at the same time good reading. Dr. Hoskins gives a clear picture of what is known about the thyroid, adrenal, pituitary and other glands and their influence on human activity.

DEVELOPMENTAL PSYCHOLOGY. By Florence L. Goodenough. New York: Century, 1934, 619, $3.00.

Introductory books on psychology are generally organized on the basis of the various segments of mental life; such as, imagination, thinking, motivation. Dr. Goodenough achieves greater reality and unity by using the developmental approach, tracing the growth of the whole human being through childhood, adolescence, maturity, and old age. The book will be useful to those desiring a knowledge of the principles underlying human behavior.

ARBITRATION IN THE NEW INDUSTRIAL SOCIETY. By Frances Kellor. New York: McGraw-Hill, 1934, 256 pp., $2.00.

"The central theme of the new design for an industrial society is a theory of partnership in which industry, labor, the government and the consumer become partners." The author analyzes the conflicting interests in industrial society and forces making for their integration, with special reference to the recovery act.

HYGIENE OF THE MIND. By Baron Ernst von Feuchtersleben. New York: Macmillan, 1933, 150 pp., $1.25.

This is a translation of an essay written by an eminent Austrian doctor in 1838. Compounded of ideas which in one guise or another have filtered down to us in certain phases of the writings of the Christian Scientists, the Emmanuel Movement and more recent psychiatric studies, it is an interesting evidence that mental hygiene is no new thing. Rather as the translator says, "it has come to be essentially a wisdom of the ages." The scholar who would keep his humility, the layman who believes that mental and nervous ills are a new thing in the world,—each will find a more than antiquarian interest in this book. It will be fortunate if many of our contemporary mental hygiene texts stand up so well for reading a century hence!

A REFERENCE GUIDE TO THE STUDY OF PUBLIC OPINION. By Harwood L. Childs, Princeton University Press, Princeton, N. J., 1934, 105 pp.

The body of information relating to the approach to and the techniques of influencing public opinion has now reached such proportions, says Edward L. Bernays in his Introduction to this highly useful work, "that it seems desirable to attempt a tentative classification of it." Professor Childs has performed this task with great astuteness and breadth of vision. It is hard to believe that what is essentially a bibliography could be organized and correlated so that the major trends of the idea-content of the subject can be clearly read between the lines by the informed reader. The ordering of the material is highly suggestive. Its scope is excellent. It is to be hoped that the compiler will presently translate this outline of study into a finished treatise on a subject of growing import and practical values. Its possible application, for example, to the problem of bringing the results of the social sciences into closer interrelation with going affairs, is one on which we are all still novices. And this author should be able to offer us important aid toward its solution.

New Books

AMERICA'S CAPACITY TO CONSUME. By Maurice Leven and others. Washington, D. C.: Brookings Institute, 283 pp., $3.00.

CRYSTALLIZING PUBLIC OPINION. By Edward L. Bernays. New York: Liveright, 218 pp., $2.50.

DISCUSSION METHODS FOR ADULT GROUPS.

By Thomas Fansler. New York: American Association for Adult Education, 154 pp., $1.50.

EDUCATION AND SOCIAL PROGRESS. By Charles Hubbard Judd. New York: Harcourt, 297 pp., $2.00.

EXECUTIVE ABILITY: ITS DISCOVERY AND DEVELOPMENT. By Glen U. Cleeton and Charles W. Mason. Yellow Springs, Ohio: Antioch Press, 199 pp., $2.00.

FACTS AND THEORIES OF PSYCHOANALYSIS. By Ives Hendrick. New York: Knopf, 331 pp., $3.00.

FEDERAL AID FOR THE EQUALIZATION OF EDUCATIONAL OPPORTUNITY. By Helen Marie Muller. New York: H. W. Wilson, 121 pp., $.90.

KEEPING A SOUND MIND. By John J. B. Morgan. New York: Macmillan Company, $2.00.

MUST THE NATION PLAN? By Benson Young Landis. New York: Association Press, 231 pp., $2.00.

THE NEW FIELD OF PSYCHOLOGY. By Madison Bentley. New York: Appleton-Century, 455 pp., $3.00.

THE NEW UNEMPLOYMENT ACT POPULARLY EXPLAINED. By Ronald C. Davison. New York: Longmans, 32 pp., $.36.

PERSONAL DEVELOPMENT AND GUIDANCE IN COLLEGE AND SECONDARY SCHOOL. By Ruth May Strang. New York: Harper, 348 pp., $4.00.

A PROGRAM FOR UNEMPLOYMENT INSURANCE AND RELIEF IN THE UNITED STATES. By Alvin Harvey and others. Minneapolis: University of Minnesota Press, 209 pp., $2.50.

PSYCHOLOGICAL DIAGNOSIS IN SOCIAL ADJUSTMENT. By Percival Mallon Symonds. New York: American Book, 371 pp., $3.00.

PSYCHOLOGY FOR EXECUTIVES. By Elliott Dunlap Smith. New York: Harper, 327 pp., $3.50.

STATISTICAL METHODS. By Herbert Arkin and Raymond R. Colton. New York: Barnes and Nobel, 224 pp., $1.25.

WOMEN AND THEIR CAREERS. By Anne Hendry Morrison. New York: National Federation of Business and Professional Women's Clubs, 185 pp., $.15.

Current Periodicals

PREPARED BY LINDA H. MORLEY, *Industrial Relations Counselors, Inc.*

COLLECTIVE BARGAINING

BAUDER, RUSSELL S. (University of Missouri). National collective bargaining in the foundry industry. *American Economic Review*, Sept., 1934, Vol. 24, p. 462–476.

The International Molders' Union achieved a national trade agreement in the stove industry in 1891 which is still operative. A similar agreement with the National Founders' Association was abrogated in five years. This diversity of development may be explained in terms of market expansion and technological change. The union equalized competitive costs in the relatively over-developed stove industry, thereby checking a tendency towards cut-throat competition and creating a partial equality of opportunity in the limited market. Rapid expansion of jobbing and machinery foundries made cost equalization unimportant and led employers to seek freedom from union control. Introduction of the molding machine and quantity production of interchangeable parts made possible a dilution of the labor supply and a consequent impairment of the union's job control. Technical difficulties delayed machine introduction in the stove industry until the stabilizing value of the agreement had been demonstrated and stove manufacturers chose the security of a union-enforced equality in preference to the competitive risks of operation with handymen and machines.

EMPLOYMENT EXCHANGES

Great Britain. Labour Ministry. Progress of placement work of British employment exchanges. *Monthly Labor Review*, Aug., 1934, Vol. 39, p. 311–314.

Summary of a chapter from the Great Britain Ministry of Labour Report for 1933.

INDEX NUMBERS OF UNEMPLOYMENT

International Labour Office. National and international index numbers of the general level of unemployment. *International Labour Review*, Apr., 1934, Vol. 29, p. 557–571.

Contains a description of the methods of construction of the indexes. Figures are given for sixteen countries.

INDUSTRIAL RELATIONS

FRAILEY, L. E. (Personnel Director, Ralston Purina Co.). Rebuilding an organization to meet post-depression conditions. *American Business*, July, 1934 (Abstract in *Management Review*, Aug., 1934, Vol. 23, p. 239–240), Vol. 4, p. 24–28.

Plan devised to meet present conditions.

LABOR COST

HAPGOOD, THOMAS L. (Industrial Engineer, Strathmore Paper Co.). Labor costs in advance by formula. *Factory Management and Maintenance*, Sept., 1934, Vol. 92, p. 391–392, Advertising Page, 64, 68.

Procedure: establish correct times on present product; determine relation between present and new products; derive and use formulas.

LABOR LEGISLATION

United States. Labor Statistics Bureau. Labor legislation enacted by Seventy-third Congress. *Monthly Labor Review*, Aug., 1934, Vol. 39, p. 348–372.

A summary of the more important bills. Includes the complete text of the Railway Labor Act and the Railway Pension Act.

LEISURE

Kellogg Company. Survey reveals how employees spend extra leisure time. *System and Business Management*, July, 1934 (Abstract in *Management Review*, Aug., 1934, Vol. 23, p. 245), Vol. 63, p. 335–337.

Returns from 113 men and women employed in the production department. Statistics are given for men and for women in the following activities: Reading, sports, housework, preparation of meals, working around the house, gardening.

NATIONAL INDUSTRIAL RECOVERY ADMINISTRATION

BERGEN, H. B. (Director, Industrial Relations, Proctor and Gamble Co.). Personnel policies in the light of the new deal. *Personnel*, Aug., 1934, Vol. 11, p. 16–26.

An interpretation of 30 replies to the following questions:

1) In what respects has freedom of management action become limited in the field of management activity?

2) On what factors still under the control of management must progressive companies rely in order to offset these limitations?

3) What problems of policy and procedure are created by these changes?

Two main suggestions appear to run through the correspondence. The first is that there be developed better methods for explaining to the employees not only the reasons behind the personnel policies and practices of the company but also the actual methods and techniques of personnel management as well as the data supporting conclusions and decisions. The second suggestion is that the foremen and other supervisors must be better trained in the techniques of imparting to the employees these policies and methods and that these representatives of the management themselves acquire greater skill in personal leadership.

BOWDEN, WITT (United States Bureau of Labor Statistics). Employment, hours, earnings and production under the N.R.A. *Monthly Labor Review*, May, 1934, Vol. 38, p. 1013–1031.

Reductions in average working hours per week and increases in average hourly earnings are among the outstanding features of recent industrial trends. In manufacturing industries reporting to the Bureau of Labor Statistics, average hours per week were 15 per cent lower in March, 1934, than in July, 1933, and average hourly earnings were 26 per cent higher. The Bureau's index of employment was 13 per cent higher and its index of payrolls was 27 per cent higher in March, 1934, than in July, 1933, although the Federal Reserve Board's index of production was 12 per cent lower. These and related facts regarding the trends in manufacturing industries, in manufacturing and nonmanufacturing industries combined, and in certain separate industries, with particular reference to the period of code operation are discussed.

OCCUPATIONS

VITELES, MORRIS S., editor. Analysis of occupations; a symposium. *Occupations, the Vocational Guidance Magazine*, June, 1934, Vol. 12, p. 1–85.

Contents: Analysis of occupations: editorial foreword, by Morris S. Viteles, p. 5–8; Occupational studies, by Cleo Murtland, p. 9–14; Job analysis survey: its procedures and some of its results, by C. A. Koepke, p. 15–34; Time and motion study: Techniques and their application to vocational guidance, by Lillian M. Gilbreth, p. 35–39; Analysis of skill, by Mildred Fairchild, p. 40–46; Job psychograph in job analysis, by Jay L. Otis and Kingsley R. Smith, p. 47–56; Intelligence and occupational adjustment, by Douglas Fryer and E. J. Sparling, p. 57–63; Occupational analysis for vocational guidance: Methods used by the National Institute of Industrial Psychology, by M. Boole Stott and M. Birkinshaw, p. 64–68; Job analysis in industry, by Richard Stephen Uhrbrock, p. 69–74; Classifying occupations for instructional purposes, by W. W. Charters, p. 75–78; New Aspects of job analysis, by Franziska Baumgarten, p. 79–85.

SAFETY

LECROIX, R. (Director, Industrial Relations Service, Le Materiel Telephonique). Safety organization of the company Le Materiel Telephonique. *Industrial Safety Survey*, May–June, 1934, Vol. 10, p. 59–69.

A detailed description of the activities of this company broken down by type of activity and illustrated by statistics, forms, and pictures.

MYERS, CHARLES S. Human factor in accidents. *Human Factor*, July–August, 1934, Vol. 8, p. 266–280.

Dr. Myers discusses the underlying psychological and physiological causes of accidents in the factory and on the road. He outlines the psychologist's approach to the problem of accident reduction, and describes some of the methods hitherto followed, and the results obtained.

STRIKES

CROOK, WILFRID HARRIS (Bucknell University). Social security and the general strike. *Political Science Quarterly*, Sept., 1934, Vol. 49, p. 411–420.

A general article examining the evidence of recent strikes all over the world in the light of present conditions.

TESTS

MILES, G. H., AND D. F. VINCENT. Institute's tests for motor drivers. *Human Factor*, July–Aug., 1934, Vol. 8, p. 245–257.

The Institute's motor driving tests are described in detail. The tests measure both actual and potential driving ability, and include measurements of reaction time, resistance to distraction, vigilance, visual acuity, visual co-ordination, and judgment of size, speed and spatial relationships.

TRAINING EXECUTIVES

MOONEY, PAUL (Director of Personnel, Kroger Grocery & Baking Co.). Training chain store executives. *Personnel*, Aug., 1934, Vol. 11, p. 26–32.

The results of the carefully worked out program of the Kroger Grocery and Baking Co. explained in some detail. The underlying principles are stressed so that the application of the system to other companies would be simplified.

UNEMPLOYMENT INSURANCE

FITZHUGH, GILBERT. Unemployment reserves (discussion). *Transactions, Actuarial Society of America*, May, 1934, Vol. 35, p. 72–102.

The original paper appeared in the May, 1933, issue. This discussion is by eight actuaries.

United States. Labor Statistics Bureau. Operation of unemployment insurance systems in the United States and in foreign countries, 1931 to 1934. *Monthly Labor Review*, Aug., 1934, Vol. 39, p. 273–307.

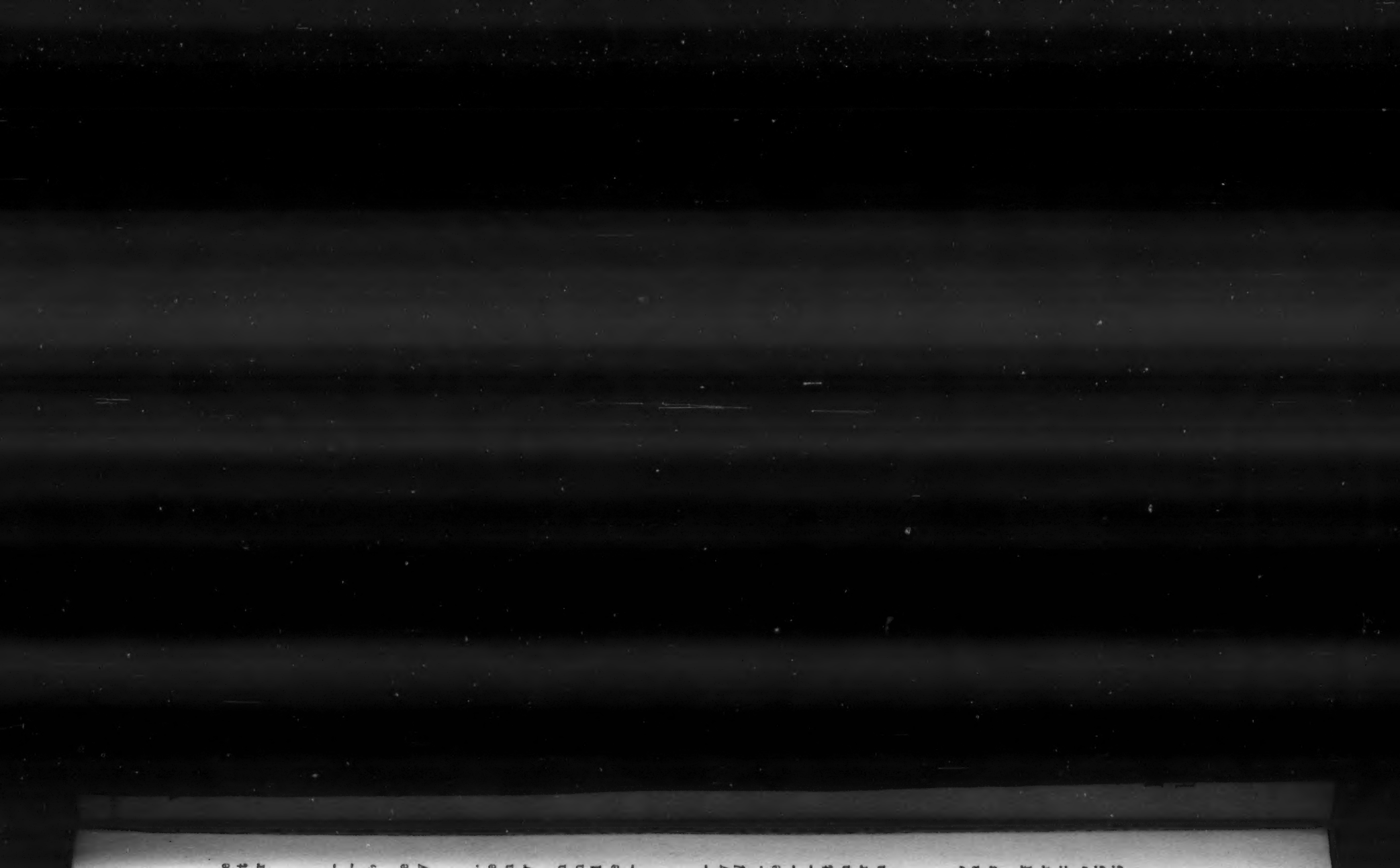
Eight foreign countries are covered in this study. Shows the manner in which the systems have been operated since 1931 as well as changes which have been made in the plans as a result of the long-continued depression.

UNEMPLOYMENT RELIEF

LESTER, RICHARD A. (Princeton University). Emergency employment in theory and practice. *Journal of Political Economy*, Aug., 1934, Vol. 42, p. 466–491.

Well documented article examining the possibility of putting unemployed workers to work on non-competitive yet socially desirable made-work projects at wage rates which will have no effect upon the rates paid for normal commercial or public work. Both American and foreign experience is summarized.

WORKMEN'S COMPENSATION

Chamber of Commerce of the United States, Insurance Department. Tendencies in workmen's compensation. *Insurance Bulletin*, June 30, 1934, No. 43, p. 1–15.

Includes a ten-page tabular analysis of compensation provisions, showing for each state the following information: date; death, permanent total disability, and temporary total disability benefits; waiting period; amount of medical aid; occupational diseases; date of law.